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IMPLEMENTATION OF THE INFORMATION TECHNOLOGY MANAGEMENT REFORM ACT OF 1996

Implementation of the Information T...

HEARING

BEFORE THE

SUBCOMMITTEE ON
OVERSIGHT OF GOVERNMENT MANAGEMENT
AND THE DISTRICT OF COLUMBIA

OF THE

COMMITTEE ON
GOVERNMENTAL AFFAIRS
UNITED STATES SENATE

ONE HUNDRED FOURTH CONGRESS

SECOND SESSION

JULY 17, 1996

Printed for the use of the Committee on Governmental Affairs

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HEARING ON THE IMPLEMENTATION OF THE INFORMATION TECHNOLOGY MANAGEMENT REFORM ACT OF 1996

WEDNESDAY, JULY 17, 1996

U.S. SENATE,
SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT
MANAGEMENT, AND THE DISTRICT OF COLUMBIA,
COMMITTEE ON GOVERNMENTAL AFFAIRS,

The Subcommittee met, pursuant to notice, at 9:36 a.m., in room SD–342, Dirksen Senate Office Building, Hon. William S. Cohen, Chairman of the Subcommittee, presiding.

Present: Senators Cohen and Levin.

Staff present: Kim Corthell, Staff Director; Paul Brubaker, Deputy Staff Director; William Greenwalt, Chief·Investigator; Frankie de Vergie, Chief Clerk; Andrea Gerber, Staff Assistant; Shannon Stuart, Majority Legislative Fellow; and Colleen McAntee, Legislative Fellow, Minority Staff.

OPENING STATEMENT OF SENATOR COHEN

Senator COHEN. The Subcommittee will come to order.

Today's hearing is going to examine issues related to the implementation of the Information Technology Management Reform Act, which goes into effect on August 8th. As many of you know, the law was designed to fundamentally change how the Government approaches the use and purchase of technology. Its development and passage was the result of unprecedented cooperation between the Administration, Congress, ten General Accounting Office, Federal agencies and industry.

While there are many individuals who played a critical role in getting this legislation passed, I would especially like to thank and commend John Koskinen and Steve Kelman and their staff at OMB and the former GSA administrator, Roger Johnson and his staff, for their help turning this vision into a reality.

A few years ago when I first started talking about the need to change the way the Government buys computers, a number of my constituents were curious that I would devote so much time to an issue which was seemingly abstract and not particularly rewarding. I explained to them that the better use of technology will enable the Federal Government to address a number of the critical problems that confront the country today.

The ability of Government to manage information has a profound effect on the daily lives of all of us. Government computers keep track of benefit payments, patents, Government insured loans, con-

tractor payments, criminal records, Medicaid and Medicare billings, just to mention a few. In short, the Government keeps track of information that ensures our financial well-being and is also critical to our public safety and national security needs.

On the other hand, poor information management is one of the biggest threats to the Government Treasury because it leaves Government programs susceptible to waste, fraud and abuse. I might point out, parenthetically, that we have had hearings over the years that take note that the Internal Revenue Service, to this day, is unable to tell us exactly how much remains outstanding in uncollected taxes. Estimates over the years have ranged anywhere from $35 billion to over $165 billion, yet we have no clue in terms of accuracy of what remains outstanding by virtue of the mismanagement or inability to manage information properly.

This morning, I don't intend to rehash all the reasons why a change in law was needed. We have hundreds of GAO, IG and Congressional reports outlining the litany of reasons why reform was so desperately needed. It is sufficient to say that the Information Technology Management Reform Act or ITMRA was needed to replace the outdated, bureaucratic and cumbersome procurement approach the Government has used in order to buy information systems.

The existing law was deficient in three key ways: number one, it failed to meet the Government's real needs; number two, technology was often obsolete by the time it was delivered; and number three, it resulted in Government paying today's prices for yesterday's technology.

By eliminating the 30-year old Brooks Act and the volumes of regulations which it spawned and by replacing a cumbersome process with one that emphasizes results, the new law represents a paradigm shift that will enable agencies to buy the most appropriate technology faster and for less money.

And much like leading private sector organizations, Government agencies will now have to provide simple, understandable evidence that they have carefully planned and justified their technology expenditures in terms of dollars spent and anticipated returns on investment. The new law will help transform the way the Government does business. If Government is going to regain the confidence of taxpayers, it must successfully modernize. And, as we all know, we can't successfully modernize unless we approach the task in a very businesslike fashion.

The new law requires agencies to pose three questions. First, what functions are being performed and are they consistent with the agency's mission. In other words, should we be doing what we are doing?

Second, if the agency should be performing these particular functions, could these functions be performed more effectively and at less cost by the private sector?

And, finally, if the function should indeed be performed by the agency, the law requires that the function be examined and redesigned or reengineered before applying technology. Reengineering these processes before investing in technology enables the Government to take full advantage of modernization.

There are five key issues which I believe are critical to the successful implementation of ITMRA. Number one, top agency management must become more involved in the role that technology plays in their organization; number two, agencies must focus on results, rather than process; three, agencies must appoint qualified chief information officers or CIOs, as outlined in the law; four, there are many cultural challenges and a need for trained, qualified and informed work force, both in the agencies and at OMB; and finally, OMB must play a vital role in ITMRA implementation.

One of the critical elements to ensuring the success of ITMRA is the commitment and focus of top agency management. In fact, experience has shown that one of the most essential factors with successful private sector organizations is a good relationship between the CIO and the organization head.

As the Federal Government begins to appoint its CIOs, over the next several months, I'm hopeful that agencies are going to begin to see technology as a tool that can help them perform mission-related and administrative processes much more efficiently. Whether it is tracking storms, processing educational benefits or issuing disability checks, technology is a critical component of fulfilling the agency's mission.

The new law clearly mandates that not only must agencies change their focus from doing the same old things faster, they must reexamine functions, reengineer processes and integrate new and old systems. The approach should be incremental and fit within an overall strategic plan. Most importantly, however, Federal expenditures on technology must be justified in terms of weighing what's being spent on the system versus the anticipated benefits that will be derived from the new system.

We also have to understand that the statutory changes made by the new law really constitute only half the battle. The other half involves changing the management and organizational culture in agencies, at OMB and also, here in Congress. In order for the new law to succeed, all the parties involved in the implementation must do several things.

Number one, government must embrace new ways of doing things. I think of the old Charlie Brown cartoon where he says, how do I do new math with an old math mind? And it seems to me that we have got to start thinking about how we will implement new math and develop new math minds.

Number two, government must understand and participate in the process of change. And three, government must appreciate the need to treat technology expenditures like investment.

Overcoming these cultural barriers is going to require the commitment of management at the highest levels of the Federal Government. And that cultural change can start today. Instead of viewing these changes as simply more burdens to overcome, federal managers ought to view this as an opportunity to manage well.

I am thankful that we have such a distinguished group of panelists this morning. I'm looking forward to hearing from our witnesses and continuing to work with all of you in the coming weeks to successfully implement the Information Technology Management Reform Act.

PREPARED STATEMENT OF SENATOR COHEN

Today's hearing will examine issues related to the implementation of the Information Technology Management Reform Act which goes into effect on August 8th.

As many of you know, the law was designed to fundamentally change how the government approaches the use and purchase of technology. Its development and passage was the result of unprecedented cooperation between the Administration, Congress, the General Accounting Office, federal agencies and industry.

While there are many individuals who played critical roles in getting this legislation passed, I would especially like to thank and commend John Koskinen and Steve Kelman and their staff at OMB, and former GSA Administrator Roger Johnson and his staff for their help in turning this vision into reality.

A few years ago when I first started talking about the need to change the way the government buys computers many of my constituents wondered, given the numerous problems facing government, why I thought this was an important issue. The answer is that the appropriate use of technology will enable the federal government to address many of the critical problems facing the nation today.

The ability of government to manage information has a profound effect on the daily lives of all of us. Government computers keep track of benefit payments, patents, government insured loans, contractor payments, criminal records, and Medicaid and Medicare billings. In short, the government keeps track of information that ensures our financial well being and is also critical to our public safety and national security needs.

Poor information management is, in fact, one of the biggest threats to the government treasury because it leaves government programs susceptible to waste, fraud and abuse.

This morning I will not rehash all of the reasons why the law was needed. We have hundreds of GAO, IG and congressional reports outlining the litany of reasons why reform was so desperately needed. It is sufficient to say, however, that the law was needed to replace the outdated, bureaucratic and cumbersome procurement approach the government used in order to buy information systems that 1) failed to meet the government's real needs; 2) were obsolete by the time they were delivered; and 3) resulted in the government paying today's prices for yesterday's technology.

By eliminating the thirty year (old Brooks Act and the volumes of regulations which it spawned, and by replacing a cumbersome process with one that emphasizes results, the new law represents a paradigm shift that will enable agencies to buy technology faster and for less money. Much like leading private sector organizations, government agencies will now have to provide simple, understandable evidence that they have carefully planned and justified their technology expenditures in terms of dollars spent and anticipated return on investment.

The new law will help transform the way the government does business. If government is going to regain the confidence of taxpayers, it must successfully modernize. And, as we all know, we cannot successfully modernize unless we approach the task in a business-like manner.

The new law requires agencies to pose three questions. First, what functions are we performing and are they consistent with our mission. In other words, should we be doing what we are doing? Second, if we should indeed be performing particular functions, could these functions be performed more effectively and at less cost by the private sector? Finally, if a function should indeed be performed by the agency, the law requires that the function be examined and redesigned or re-engineered before applying technology. Re-engineering these processes before investing in technology enables government to take full advantage of technology.

There are five key issues which I believe arc critical to the successful implementation of the new law:

1) the need for top agency management to become more involved in the role technology plays in their organization;
2) the need to focus on results rather than process;
3) the need to appoint qualified Chief Information Officers as outlined in the law;
4) cultural challenges and the need for a trained, qualified and informed workforce both in the agencies and at OMB; and
5) OMB's critical role in implementation.

One of the critical elements to ensuring the success of the new law, is the commitment and focus of top agency management. In fact, one of the critical factors with successful private sector organizations is a good relationship between the CIO and the organization head.

As the federal government begins to appoint its CIOs over the next several months, I am hopeful that agencies will begin to see technology as a tool that can help them perform mission-related and administrative processes much more efficiently. Whether it is tracking storms, processing educational benefits or issuing disability checks, technology is a critical component of fulfilling the agency mission.

The new law clearly mandates that not only must agencies change their focus from doing the same old things faster, they must re-examine functions, re-engineer processes and integrate new and old systems. The approach should be incremental and fit within an overall strategic plan. Yet most importantly, any federal expenditure on technology must be justified in terms of weighing what is being spent on a system versus the anticipated benefits that will be derived from it.

We must also understand that the statutory changes made by the new law are only half the battle. The other half involves changing the management and organizational culture in agencies, at OMB and within Congress. In order for the new law to succeed, all of the parties involved in implementation must: 1) embrace new ways of doings things; 2) understand and participate in the process of change; and 3) appreciate the need to treat technology expenditures like investments. Overcoming cultural barriers will require the commitment of management at the highest levels of the federal government.

The cultural change can start today. Instead of viewing these changes as more burdens to overcome, we should view this as an opportunity to manage well. I am thankful that we have such distinguished panelists this morning. I am looking forward to hearing from our witnesses and continuing to work with all of you in the coming weeks to successfully implement the ITMRA.

Senator COHEN. I want to welcome our first panel this morning. First, I want to welcome Chris Hoenig of the U.S. General Accounting Office. He has been a tremendous help to me and the Subcommittee staff in developing this legislation and I also want to express my thanks to the GAO staff. They have worked diligently on the legislation, specifically, Gene Dodaro, Dave McClure, Dan Latta, and Edith Pyles.

Our second witness on the panel is John Koskinen, who is Deputy Director for Management at OMB and a person, I think, who is singularly responsible for implementing ITMRA. John's assistance and his leadership is deeply appreciated, not only by me, but the entire staff and all who have worked so closely with you. I want to express my heart-felt thanks to you, John.

I want to take the opportunity to commend Bruce McConnell, Jasmeet Sehra, of John's staff, for their invaluable help in development and implementing the legislation. And, although the OFPP administrator, Steve Kelman, is not testifying this morning, I want to publicly thank him for meeting with my staff on so many occasions, dating all the way back to January of 1993, when my interest was first stirred in the issue.

And, finally, thank Allan Brown, Matt Blum, and Nathan Tash of the OFPP staff who were also very instrumental in this effort. And, of course, Paul Brubaker, of my own staff, who has been essential and Shannon Stuart who's also helped me with this particular Committee hearing.

So, with that in mind, Mr. Hoenig, perhaps you could begin and then, John, we will turn to you.

TESTIMONY OF CHRISTOPHER HOENIG,[1] DIRECTOR, INFORMATION RESOURCES MANAGEMENT POLICIES AND ISSUES GROUP, ACCOUNTING AND INFORMATION MANAGEMENT DIVISION, U.S. GENERAL ACCOUNTING OFFICE

Mr. HOENIG. Thank you, Mr. Chairman.

Good morning. It's a real pleasure to be here before you to talk about reviewing the progress of the implementation of the Information Technology Management Reform Act. If you don't mind, I would just like to submit my statement for the record, so that I could summarize my remarks.

Senator COHEN. Sure, your full statement will be included in the record.

Mr. HOENIG. Let me start with where we are and where we're going and how we're going to define success. The challenge before us is simple in my view. Today, we have a poor track record of high costs, low value investments, with indeterminate value to the public in many cases. Largely the result of chaotic, slow, fragmented, and out-dated management process. That is today.

Tomorrow, in 5- to 7-years, if agencies successfully implement this act, we should have a positive track record across-the-board of low-cost, high-value smaller investments that clearly reduce costs and improve service to the public and they should be driven by management processes that are institutionalized, efficient and up to date.

The implementation question is how to get where we want to go as efficiently and effectively as possible from where we are today. My focus this morning will be on three vital elements that will determine our success or failure in my view.

Avoiding past mistakes and building on success by learning the right lessons from experience with previous management reforms: we don't have to reinvent the wheel.

Accurately assessing how things are going so far, the progress and implementation to date, and challenges that still lie ahead so that we can make course corrections, if necessary. And determining oversight focus in the short-term looking ahead, and identifying clearly the early signs of success or the risk of failure, as well as setting longer-term expectations.

Let me begin with learning the right lessons. Those who don't know history are condemned to repeat it. There is much to learn from prior reform efforts, such as the CFO Act and GPRA. To increase the chances of success, several key lessons stand out. One, the need for talent. Good processes don't work without good people. The first few years of the CFO Act implementation showed how much time could be lost if a concerted effort is not made from the start to get qualified professionals in key positions.

Second, the importance of incentives. The status quo has a great deal of inertia, as you mentioned in your comments on cultural change. Proactive, persistent Congressional oversight and Administration support and leadership, as we've gotten so far from the start, is necessary to create the pressure to change at an appropriate pace.

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[1] The prepared statement of Mr. Hoenig appears on page 53.

Third, having quality guidance. One size may not fit all but producing thoughtful, in-depth and useful guidance that is internally consistent and focused on results can dramatically speed the rate of implementation. Even greater impact comes from consistency across OMB, the IGs, and GAO. If we integrate the guidance with GPRA, FASA, FARA the Paperwork Reduction Act, and the CFO Act, then we get even faster implementation if we are integrated about it.

And fourth, keeping a strategic focus. Implementation in a complex environment, like the one we work in, makes it easy to lose focus on the goal by getting lost in the details. It's going to be critical to concentrate on results, good people and institutionalized processes.

Now, let me turn my attention to how things are going so far. Overall, the Administration, with OMB's leadership, is taking a proactive, broad-based flexible approach to implementing the Act, under the influential guidance of Mr. Koskinen. But I must emphasize, it's still very early in the process and too soon to give strong indications, either positively or negatively.

The legislation only becomes effective next month. Just 3 out of 27 potential CIO positions in major agencies have been approved that meet OMB's criteria. Capital planning reform efforts are still in their infancy. Several of the key documents supporting implementation are still in draft form and incomplete.

However, our analysis so far reveals five major areas of emphasis for the year ahead, both at agencies and at OMB, where we have made progress but where there are still some major challenges ahead.

The first involves reinforcing the involvement and accountability of top executives, not just IRM managers. Where things are going well is there has been a significant involvement of IRM professionals across the Government that have been directly brought into the formulation of the proposed guidance by OMB. The President's Management Council has been briefed clearly on the essentials of this Act and what it takes to choose a good CIO.

However, substantive participation of agency heads and senior program executives in the management of IT is going to be very difficult to achieve and is going to demand more persistent creative efforts and very strong leadership on the part of OMB to really get them substantively involved.

Secondly, sending strong consistent signals on the CIOs. Currently there is a good process in place to screen and review agency CIO appointments against appropriate criteria, we think. Steps have been taken to identify potential CIOs for agencies and to help them target qualified candidates.

However, many agencies still remain undecided and even unclear on the strategic importance of the position. Of the 27 agency positions that I mentioned, 14 are currently undecided, being recruited or have not provided formal information. And 13 appointments have been made, 3 have met the OMB criteria, 7 are in process and 3 really have more information being exchanged currently between OMB and the agencies on the appointment.

So, that's where we are currently on the CIO appointments.

And there is still confusion on the need to keep the CIO position independent from the CFO position. They serve different purposes and require different skills and should be kept separate while working together.

Third, pay attention to building new skills, not just leveraging existing ones. The ITRB and the GITSB, which are both mentioned in the Executive Order, have been designed as mechanisms to marshall existing talent around the Government to prevent problems in high-risk systems and to exploit hard to organize, inter-agency Government-wide and inter-governmental opportunities.

ITRB, even though it's just got a few trials under its belt, is still largely untested, but has made a positive influence, while GITS has made a very important impact in stimulating initiatives that cut across agency boundaries.

However, there's really little being done beyond the organization of an initial study group with a hitherto undefined agenda on how to attract and retain the caliber of individuals needed for the crucial CIO, Deputy CIO, and technical positions that will support implementation. So, we have a ways to go on that one.

Fourth, going beyond Government-wide efforts to changing how OMB and the agencies work. I think this gets at some of your statements on cultural change. There have been a variety of efforts from the CIO Working Group to GITS and inter-agency guidance groups to design and promulgate Government-wide guidance. These have been very effective to date. However, the beef in implementation is going to come at the agencies and in OMB's activities in capital planning and investment control during the budget process.

OMB and agencies' internal implementation of capital planning approaches have a long way to go. They have big challenges ahead including the lack of good data, loose criteria on prioritizing the costs, benefits, and risks of investments, and a focus on the front-end in selecting projects rather than controlling them in implementation and evaluating whether they have achieved anything. So, we still have a long ways to go there, as well.

And then fifth, emphasizing integrated, not just a selective approach. Currently, OMB's focus—and I think, appropriately—is on the CIO and capital planning and investment with some performance measurement initiatives, as well. And given that these are probably the highest leveraged areas to begin with, that seems appropriate to us. However, ultimately unless other efforts and key elements of the legislation are covered soon and are followed through with, it's going to be very difficult to have an effective legislative implementation effort. And, in particular, I would like to mention, benchmarking and reengineering.

There's a lot of talk about reengineering in the three questions but experience has shown in the private sector and the public sector this is a very hard thing to do. And guidance efforts in the reengineering area have not moved as fast as in some of the areas. I think that, since it's such a critical aspect of implementation, there is going to need to be more done there.

Senator COHEN. There is going to be a real problem, is there not, in terms of the pressure within an agency on the one hand to make the kind of analysis necessary for reengineering while, on the other

hand, technology keeps coming faster and faster. The question becomes shall we grab the technology before we finish the reengineering? So, there is going to be a constant tension between the two.

Mr. HOENIG. Absolutely. To counter-balance that tension, there is really going to have to be a very significant effort put into the counter-weight.

Finally, given the lessons we've discussed and the progress to date, what should be the oversight focus for Congress in the short-term, 6- to 18-months ahead?

The first point, to gauge selective instances of progress I think will be in the fiscal year 1998 budget and appropriation cycle this fall and spring. We will be able to see some selective instances where potential progress is being made. But the first point, to assess across-the-board progress is going to be the fiscal year 1999 budget appropriation cycle fall-to-spring of next year.

At each point, the Congress should be looking for four things, all of which are important, and missing any one, in our view, would be a danger sign.

The first is real, measurable, agreed upon successes. Nothing succeeds like success. These should not be coming in a couple of years, but in the next 6- to 18-months. There are projects that have already been completed that could be measured now. As an example of that, even at the IRS, which has done four post-implementation reviews in the last 6 months on major systems efforts that have been ongoing for years, a lot of these projects can be measured now to determine whether they are successful or not. And there are projects under development that can show prototype and pilot results. So, we don't have to wait for success.

Second, get good CIOs in strong positions at the agency and the bureau levels. I cannot overemphasize the importance of structuring these positions effectively, I think we all agree, and filling them with qualified people. There is much oversight agreement on this. It's up to agency management to execute.

Third, repeatable processes fed by good data. Budget and appropriation decision making should reveal the quality of agency investment processes, in these two cycles that I mentioned. There should be clearly identified project portfolios linked to strategic plans, with risks assessed, processes analyzed, as you said, returns projected and track records described. We should start to see track records.

And then last, having the right people asking and answering the right questions. Members of Congress, throughout the oversight and appropriations process, and OMB program examiners and senior management during the budget process need to be asking what was spent, what was achieved and was it worth it? Agency cabinet officials need to be able to clearly answer these questions for all their IT capital expenditures.

In conclusion, Mr. Chairman, the paradox of the information age, with all its complex and sophisticated tools, is that it has made simple, disciplined management fundamentals more important than ever. With your and this Committee's leadership and the support of the Administration, this critical focus has been squarely placed on the Federal management agenda. We look forward to working with this Committee in the years ahead in oversight of this vital effort.

Personally, I'm going to miss you and your staff's determined, insightful and collaborative leadership in this often neglected area. That concludes my statement. I would be happy now or after Mr. Koskinen to answer any questions you may have.

Senator COHEN. Thank you very much, Mr. Hoenig.

I appreciate your comments and I think perhaps in this particular case, the staff may be more important than me. Hopefully they will stay on in one capacity or another on the Committee or with members who have an interest in this subject matter.

Mr. HOENIG. I hope so.

Senator COHEN. Mr. Koskinen?

TESTIMONY OF JOHN KOSKINEN,[1] DEPUTY DIRECTOR FOR MANAGEMENT, OFFICE OF MANAGEMENT AND BUDGET

Mr. KOSKINEN. Good morning, Mr. Chairman.

I'm very pleased to be here to give the Committee a status report on the Administration's implementation of the Information Technology Management Reform Act of 1996. And as with Mr. Hoenig, I would be happy to submit my full statement for the record and deliver an abbreviated version of it.

Senator COHEN. It will be included in full.

Mr. KOSKINEN. We are encouraged that so many people are interested in maximizing the contribution that information technology can make to improve program performance. In fact, in light of the size of the crowd here, I think I would like to meet the public relations agents for Mr. Brubaker and the Committee here. [Laughter.]

Mr. KOSKINEN. What is particularly reassuring is that the perspectives of the executive and legislative branches are so consistent, beginning with the idea that IT is critical to improving service delivery and as a powerful tool for reinvention.

As Mr. Hoenig noted, we particularly appreciate your leadership, Mr. Chairman, in this area and the excellent working relationship we've had with you and your staff.

From the OMB perspective, the Act incorporates a number of very important and useful insights and ideas. It focuses clear and thoughtful attention on the significance of information technology and provides support for the discussion of how the Government's operation in this area needs to change. It is critical to realize that promoting agency success in this area depends both on the type of oversight, as well as the placement of that oversight.

The Act forges links to the budget process. We believe that only the budget process, rooted in the agencies' strategic business plan, provides the opportunity to engage the agencies in a dialogue early enough in the life of a project to have an effect on its direction.

Agencies are accountable for delivering systems that produce mission-related results and OMB is responsible for holding them accountable. The Act appropriately emphasizes agency responsibilities in this context by establishing a strong voice within each agency to be a champion for intelligent use of information technology, the agency CIO.

Under the Act, the chief information officer becomes the proponent of the strategic view before investments are made by asking

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[1] The prepared statement of Mr. Koskinen appears on page 66.

the three important questions you set forth in your introductory comments: Should the Government be performing the function or can it be privatized? Can another agency perform the function as well as the agency looking at an information technology solution? And, has the process to be supported been reengineered?

The Act clearly recognizes the usefulness of inter-agency sharing of expertise by creating inter-agency fora and otherwise attempting to facilitate the sharing of resources across agencies. Such sharing is essential. If these groups fail to provide useful advice or if that advice is not taken, the investment control and capital planning process will default to suboptimal investments, missed benefits and higher costs. The opportunity to create strategic IT directions will be lost.

Another provision that we think will improve the acquisition of information technology gives the General Accounting Office exclusive jurisdiction over information technology bid protests, aligning the procedures for IT with those followed for all other products and services.

Finally, an opening has been created to acquire a large system in a more modular fashion and to use more off-the-shelf components. Experience in the private sector, according to GAO, has demonstrated the importance of this process. Modular procurements can mitigate risk and improve the chances of success. But without substantial progress on this front, large systems will be predisposed to failure.

I would like to now turn the discussion to the steps we are taking to prepare for the implementation of the Information Technology Management Reform Act which becomes effective August 8th. The foundation of the Act requires agencies to take responsibility for capital planning and budgeting for IT systems that will support their missions.

We, at OMB, need to provide support and resources to the agencies where they can use it. But we need to recognize that ultimately we need to stop subjecting the agencies, as a regular matter, to oversight for IT acquisition outside the normal budget process. This is what the Act contemplates. Because our implementation strategy streamlines the oversight process and builds on existing practices, we believe it is realistic and feasible. Our strategy is modeled and builds on commercial best practices and on successful efforts already underway in the agencies, across agencies and in OMB.

To implement our strategy we are taking three steps. Issuance of an Executive Order that organizes a series of inter-agency groups to assist us in implementation of the Act; revisions to OMB circulars, primarily circulars A–11, the budget circular, and A–130, to focus on improved capital planning; and provision of additional information and guidance to the agencies on the designation of chief information officers.

The President's Executive Order, signed this week, establishes three inter-agency groups to provide information and suggestions to OMB for its use in the review of information technology budget requests. The groups are as follows. A chief information officer council to serve as the principle forum to improve agency practices on such matters as the design, modernization and performance of

agency information resources. The CIO Council will develop recommendations for overall Federal information technology policy, procedures and standards. We intend to use the council for outreach and education as well.

The Government Information Technology Services Board will ensure continued implementation of the IT recommendations of the National Performance Review and identify and promote the development of innovative technology, standards and practices among agencies, State and local Governments and the private sector.

And, finally, the Information Technology Resources Board will provide independent assessments at the request of agency heads or OMB to assist in the development, the acquisition and the management of selected major information systems.

We will also continue our support of the Presidential Technology Teams which were established earlier this year by Presidential Memorandum. These teams allow groups of agency IT experts from across the Government to work for 6- to 18-months with an individual agency to solve a particular IT problem.

In addition to the benefits to the agency, the team members gain a broader range of experience than they would normally get in their home agency. We are also adjusting OMB circulars to help implement the Act. We have developed a revision, known as Part 3, to OMB circular A–11, which is the preparation and submission of budget estimates circular, to encourage agencies to engage in a capital planning process for fixed assets, including information technology systems.

We are anxious, as part of these revisions, to integrate a series of separate requirements to measure the performance of fixed assets and not require the agencies to respond to several different requests for similar types of information.

For example, the Government Performance and Results Act requires agencies to relate the acquisition of assets to the performance of the agency's mission. The Information Technology Management Reform Act requires that the performance of large IT systems be tracked. The Federal Acquisition Streamlining Act in Title V requires agencies to develop performance measures for all procurements and to track them.

Circular A–130 discusses the need for planning of information assets and systems as does OMB's fixed assets bulletin. With the assistance of agency and GAO representatives, a work group we structured created the revision to A–11 which allows us to ask agencies for a single submission of information about the justification for and performance of their proposed major IT systems.

We define major systems to be those that require special management attention because of their importance to an agency mission, their high development, operating or maintenance costs, or their significant role in the administration of agency programs, finances, property or other resources.

Another goal of our revision of A–11 has been to assure that the information we collect is based on information that is useful both to the agencies and to OMB. Here, again, the participation by agency and GAO representatives has helped us develop a more workable process of data collection.

A longer term project that we have begun is the development of a capital planning guide for all types of fixed asset acquisitions. The capital planning guide will be available for use in the fiscal year 1999 budget process and will focus on justification for a proposed acquisition, as much as Mr. Hoenig suggested, in terms of its ability to improve agency performance of its missions, the cost of the performance to be obtained, alternatives to the acquisition and a portfolio investment analysis that compares the impact of this acquisition against investments in other acquisitions or existing projects. We will be building on a very popular joint OMB/GAO guide entitled, "Evaluating IT Investments."

We will also be revising OMB Circular A–130, Management of Federal Information Resources, and hope to have a draft version out for public comment in the next few weeks.

Finally, on April 4, 1996, OMB sent Memorandum 96–20 to the heads of all agencies, giving them additional information on designating a chief information officer and advising them that proposed CIO appointments are to be made after consulting with OMB.

As we examine the packages provided to us by the agencies, we are looking for the following three things. First, the organizational placement of the CIO. Our memorandum states that the person selected should report to the agency head directly and not through another official. It may be efficient in some agencies for the CIO to work on a daily basis with the chief operating officer, or the deputy administrator of the agency as long as it is clear that the CIO has direct access to the agency head whenever the CIO deems that appropriate.

Second, to focus on capital planning and performance-based management of information technology. One of the most important responsibilities of the CIO is to promote effective agency operations by encouraging performance-based management. A major responsibility of a CIO is to ensure that the agency has asked those three important but sometimes pesky questions you mentioned in your own statement.

And, finally, we are concerned about the background and experience of the CIO. The CIO must have the necessary knowledge of information systems capabilities to advise the agency head and senior program managers on the potential of information technology to create new program objectives and to advise them on the associated risks and techniques for minimizing those risks.

In addition to our memorandum, several different organizations, including some in the private sector, have provided us with information on the positions, duties and qualifications of a CIO. To assist the agencies, a summary of three recent papers on this subject have been shared with the President's Management Council which I chair and is composed of the chief operating officers of the agencies.

I would be happy to submit that summary for the record, if you would like.

Senator COHEN. Thank you very much.

Mr. KOSKINEN. Mr. Chairman, this Committee has a long history of bipartisan cooperation in its efforts to improve the management of the Federal Government. Passage of the Information Technology

Management Reform Act will significantly increase the effectiveness of information technology and agency operations and we look forward to working with the Congress to assist us in making progress in this important area.

I would be pleased to answer any questions that you may have.

Senator COHEN. Thank you, Mr. Koskinen.

Again, I come back to the issue of why do we even have this legislation. I know those of you sitting at the table had copies of the report that we wrote in October of 1994 entitled "Computer Chaos." What we discovered was that we're spending roughly about $25 billion a year on acquiring information technology and in about the past 10 years it has totalled over $200 billion.

And much of it is wasted. That's what is perhaps so grating is that much of it is wasted, not from any malevolent motives, but rather due to the acquisition system and the culture it spawned. I think the example of IRS comes to mind where the IRS wanted to modernize the capability of its field agents by getting laptops into the field offices. The IRS started its acquisition process back in 1987. The laptops were finally delivered in 1993. And, of course, by the time the laptops were delivered they were already obsolete.

We have many other examples involving the purchase of mega systems. NIH, for example, acquired a major system costing $700 or $800 million. Yet, the system NIH purchased did not perform scientific applications like those required by NIH scientists very well. Consequently, the NIH scientists preferred using existing computers and so we have a vast expenditure with very little utilization.

That is but one example of what prompted my interest in how the government approaches modernization. And this is one of the rare examples, I suspect, where we don't have a Hatfield and a McCoy type of confrontation between Congress and the Executive Branch. So often, we summon you here and we sit up on this dias and we start to criticize virtually everything the Executive Branch has done.

And you look at us as sort of pompous and puffed-up, narcissists, who can't wait to start breaking into a speech at the opening of a refrigerator door. That attitude obviously has to change. This, I think, is one example where we truly have dropped the traditional hostility that exists between the Executive and Congressional branches to put something together that I think holds the promise for saving billions of dollars and truly making a major step toward restoring a sense of confidence in government on the part of the American people, which day after day, is further eroded by an evening telecast that says, how your Federal tax dollars are continually wasted due to inefficiency.

If we are going to ever restore a sense of confidence that we're doing something right in the Federal Government so that the people believe that their tax dollars are not simply being thrown away, proper implementation of ITMRA is one of the most important steps that we can take.

So, I want to thank you all again for your help in making the legislation possible.

Mr. Hoenig, what are some of the key factors that would indicate to the GAO that ITMRA is on track? What are you going to look for as we proceed down the line as key indicators?

Mr. HOENIG. Well, I think there, actually I'm going to go back to the same four things that I mentioned in my oral statement. And I think we are looking for those four things a year from now which is good people in these CIO positions, not necessarily all of them. But, on the other hand, it would be hard for me to understand if more than a handful didn't meet the essential criteria that Mr. Koskinen just laid out. So, good people in those good positions.

Real successes. I think that's going to be the hardest thing to do but also the most essential to start with. There's a lot of money that's been spent to date by projects that have been completed already. Also ones that are right now developing prototype results. So, how are they doing?

Those are analyses that can take place in a matter of months to show whether successes are being made and loops closed on those projects.

So, real success, good people in the positions, good institutionalized processes in place. These investment control processes in particular, I think, when they are institutionalized and are not dependent on talented leadership of individuals, then we will know we have started to arrive.

So, those three factors, in particular I think, and then the fourth one which I mentioned but I forgot.

Senator COHEN. I think you said the right people asking the right questions.

Mr. HOENIG. The right people asking the right questions, right. The essential thing about that criterion, I think, is that we see it both on the Executive Branch side and here, in Congress, because when members, like yourself, either on oversight committees or on appropriations and budget committees, are asking these tough questions, how did you spend the money and what did we get for it, we will have an incentive in the appropriations process for agencies to look for those returns and to figure out ways to institutionalize processes to produce repeatable results.

And when we have not only Mr. Koskinen but the agency heads that can come up here, for instance, and actually talk about the year 2000 problem that they're confronting or the need to reengineer a major process, when they're beginning to use those words and can answer questions on what they're spending on information technology in a way so that you can go back to a member of your constituency and say, yes, 5 cents of your tax dollars in discretionary spending went to IT and here's what you got for it, then we know we will be making progress.

So, I think those are the four factors that we're going to be focused on.

Senator COHEN. One of the problems, it seems to me, is that the train is still moving along. Each year we have a budgetary process. We're now putting a tremendous burden upon the agencies to reengineer and reform and to generate the kind of cost data that's going to be necessary to satisfy the CIO and OMB that the analysis has been done. In the final analysis an agency must be able to say here's our mission, here's the cost data that we have, this is what

we hope to acquire and what we intend to pay for it, and these are the projected savings.

Now, how do you do that as the train is still moving? I guess, either one of you could try to answer that question because it's going to be very difficult to carry out the mission on a day-to-day basis and still go through the reengineering process. You're going to be looking at what agencies have done in the way of hiring and putting in place qualified CIOs, what the nature of that relationship between the CIO at the agency level is going to be versus the sub-agency level with all the various departments having their own CIOs.

Yet the question remains, how do you measure what you are doing while the train is still moving?

Mr. HOENIG. I have a sort of counter-intuitive answer to that one but I feel very strongly about it. My sense is that that is actually one of the big cultural paradigms we need to change. We have too many things to do, so, how could we possibly do it all?

In fact, it's just the opposite. With the cost pressures and the forcing function, for more data and better results, the organizations unfreeze, culture gets reevaluated, the data creates new perspectives, and change begins to occur more quickly.

So, I actually think these strong forcing functions are what create the ability to make it work.

Senator COHEN. You may recall when Roger Johnson first took over at GSA, we said, how about a freeze on federal construction? Let's just stop right now and not do anything new for the next 6 months.

Is that something that's realistic in terms of let's not acquire any new information technology for the next 6 months until you satisfy OMB or the agency head? Can you do that in a situation like this?

Mr. HOENIG. I don't think so. But, on the other hand, it's very important that agencies begin to—this is another cultural change at OMB and at the agencies—that they begin not to just look at the incremental new funding but start to take a zero-based look at the portfolios that are already in existence, without necessarily stopping everything. There has to be effort put in to determining, from a zero base, whether all the money that's currently being spent has really been justified effectively and how it's going.

Senator COHEN. This Subcommittee has been told that there are a number of agencies that are developing their own implementing guidelines because OMB hasn't finalized its guidance yet. Can you confirm that?

Are you aware that this is a problem at all?

Mr. HOENIG. Well, I would say I would just let Mr. Koskinen comment on that. But from what we've seen, the development of guidance is actually tracking very well with most of the key elements in the legislation but there are many different pieces going on at the same time. I wouldn't be surprised if agencies are developing some of these a little bit ahead or a little bit behind of where the inter-agency groups are going.

It's a little bit of a process of herding cats.

Senator COHEN. Is there a danger that we're going to have a Balkanization of the guidelines?

Mr. HOENIG. That's always a potential danger, but my sense is that OMB is very focused, and we're certainly working very closely with them, as well, to try to be focused on coming up with consistent criterion guidance.

And the inter-agency groups that are being convened and facilitated by OMB on this have fairly broad representation and I think are able to at least highlight areas of inconsistency. They have been pretty good at highlighting those areas of inconsistency.

So, I actually see inconsistency as less of a problem now than incompleteness. Because I do think in areas like reengineering, which I mentioned, there's the potential of things falling through the cracks and not getting the focus they deserve while we focus on the CIO positions and the capital planning.

Senator COHEN. Do you see any problem as far as the developing of the nature of the relationship between the department CIO and the sub-components? If you have a CIO, for example, for Health and Human Services, what do you anticipate the nature of the relationship to be between, let's say, the CIO for NIH? Have you made any kind of analysis there?

Mr. HOENIG. We haven't done a lot of analysis on that, although we have studied five different agencies in the investment work that we have actually done for your Subcommittee that we will be coming out with soon.

And I guess I can say a couple of things. One is that that is a real problem that hasn't yet been addressed effectively, that is looming out ahead of us. But I think the answers are actually fairly straightforward once we get down to it.

The departmental role and the agency roles are going to be very similar in many respects. The Information Technology Management Reform Act provision should apply to both levels in terms of investment performance measurement, business process reengineering. They should apply equally to both levels.

So, in most respects, I think departmental and agency guidance would be implemented, should be implemented the same at each levels. What would be different from our perspective is in two respects. One is, in terms of actually which investments that the departmental, the higher level makes decisions on. Typically, based on the best practices we have studied, that would be in three cases.

One, very large investments; two, very high-risk investments; and three, investments that have a clear shared benefit across the entire department, a telecommunications system, for instance, that benefits everyone. Those would be decisions that would be made at the department level versus the agency level.

And then the second thing I think that would distinguish the departmental level would be the oversight function, because the department will have that responsibility of overseeing agency processes and also the responsibility for any particular tradeoffs that would need to be made across programmatic stovepipes. So, in those two areas, I think the department will be different but the solutions are workable. And I think they will just take some time to put in place.

Senator COHEN. Another point for clarification. We talked about CIOs and CFOs. You indicated quite clearly that there should be

a distinction between the CIO, the chief information officer, and the chief financial officer.

Some of the agencies initially either have, or were contemplating combining the functions of the chief financial officer with that of the CIO. You indicated in your prepared statement that that is not recommended.

I think Mr. Koskinen, you indicated that in some limited circumstances there might be some fusion of the two. I want to point out the principle focus and intent of the legislation was to keep them separate and apart. They are clearly separate functions. They should be in cooperation but not in consolidation.

I assume that GAO has recommended that as well?

Mr. HOENIG. Yes.

Mr. KOSKINEN. Let me just comment——

Senator COHEN. I think when you were talking, Mr. Koskinen, you indicated that the CIO should have direct access to the agency head. It wasn't clear to me in terms of your indication whether you favor a CIO working in conjunction with the chief financial officer or whether the CIO role would be subsumed by the CFO.

Mr. KOSKINEN. Let me clarify, although, Mr. Hoenig has done very well thus far and I'm happy to let him keep doing it, as long as he comes up with good answers.

As a general matter, I think the statute is very clear: not only should the CIO have access to the Secretary, but his or her primary duty should be IT management.

And I think we agree that, as a general matter, it is important for the CIO to be a highly visible, appropriate person. There may be, as I've said in the past, occasions in a particular agency where the bulk of the IT questions are focused in the CFO's area of supervision and he or she has appropriate background to subsume those responsibilities, particularly if IT, as a general matter, is a relatively small part of an agency's operations.

We have tried to avoid a one-size-fits-all mandate, particularly, as Mr. Hoenig noted, because we're trying to make sure that we find the best people we can and tailor this situation, in each agency, to where the agency thinks it works best as part of its dialogue with us.

So, I think, as a general matter, most of the CIOs will not be CFOs. If there is an occasion or two in which they are, it will be justified, because of the nature of that agency's IT responsibilities and the background of the CFO.

If I could go back to a couple of earlier questions, I would note, with regard to the train moving along, it clearly is more complicated than if we were starting from scratch. Although, as they say, it wouldn't be fun if it were easy.

And I think Mr. Hoenig is right, there is a lot of pressure driving the agencies to look at these issues. But I think that's why we have been trying to focus across-the-board on major questions and major systems. And I think that we can——

Senator COHEN. How have you done this? How have you taken the Information Technology Management Reform Act and implemented it or at least integrated it into your budgetary analyses and processes?

Mr. KOSKINEN. Well, as I said, this week we are issuing part 3 of the A–11 budget circular for the fiscal 1998 budget process. Part 3 requires the agencies to provide OMB with information regarding justifications for major procurements, including major IT systems. We will review that information this coming fall.

And, again, we've looked at, and talked with the Committee staff about, the question of what is "major" under FASA Title V, as well as under ITMRA, and we have opted against having a dollar threshold. A $50 million threshold could be very small for the Defense Department but very significant for a smaller agency, or a particular project may not cost that much but may be vital to the performance of an agency's strategic mission.

After consultation with the agencies and others, we decided that, from the start, we need to get the agencies and the budget process focused on questions about systems that are important to an agency. These systems would be those that are important because of the system's relative cost compared to the budget of the agency; the strategic mission of the agency and the relation to the IT system; or the complication and the agency's background experience, or lack of experience, in dealing with this kind of a system.

So, part 3 is going out. As part of the fiscal 1998 budget process, we expect to have baseline measurements about what the performance will be—for both existing and new systems—while recognizing, as you say, that the train is moving along and we don't necessarily have time to get every system put into that process this year.

But we have made it clear to the agencies that we need their input. By this time next year, the budget process will collect justification information on all of those systems. And the capital planning guide, which we will have out in the next few months, will relate to that process and give guidance and advice to the agencies on how a capital planning process should produce the information that becomes part of the budget proposals.

We are confident that a year from now we will meet at least a couple of Mr. Hoenig's benchmarks, and your's as well, in terms of a cultural change— how agencies analyze not just an individual system, but their portfolio of investments in information technology.

I think it is also important to step back and note, as I said in my prepared testimony, that the problem of failed systems is not merely a Government problem. The private sector struggles with these same questions. There is a recent survey that shows over half of the new systems in the private sector will cost twice as much as originally planned.

My experience has been, and I think the analysis in "Computer Chaos" and the GAO analysis supports this, that we generally get into difficulty with IT systems when we don't ask the questions you have focused on. That is, we decide to automate an existing need or work process without asking the right questions. Is there a better way to do this work and redesign the way we do it to make more effective use of the information technology? What will we get with this system? How will the system change or allow us to better meet the agency's basic missions?

Basically we have had a disconnect. We have had program managers and operators saying, "I would like to have more information technology, I would like to have a better system." That request goes over the transom to the procurement and the IRM people and there's never a feedback loop that says "if you asked us a different question we could get you a better answer."

Mr. HOENIG. Can I just make a comment on that, very briefly? An excellent point that was made about the failure rates is that one thing that addresses your issue of cultural change though, which is really important to emphasize, is that those are all average figures. And that the best out of the private sector have achieved 80- to 90-percent success rates on systems. And the cultural mindset we need to change in the Government is that we can't be world class, that Government agencies shouldn't be expected to be world class organizations.

We have to be able to get out of that mindset and compare Federal agencies to the best in the world, not just against the average in the Government or against the average in the private sector.

Senator COHEN. We have focused in the past on the travel voucher system in the Department of Defense, by way of example, and there we found that about 30 percent of the total cost of travel is spent just dealing with the bureaucratic process, itself, in terms of validating and processing the vouchers. The best practices of the private sector on average is down to 10, some are down to 5, and some are down to 3 percent of total travel costs. The leadership at DOD has said, you know, you are right on track, we have got to change. And we don't want to be at 30 percent. We want to be, at least, down to 10 percent.

And perhaps we shouldn't expect too much to get down to the 5 or 3 percent level, but that can certainly be a goal. And that's part of the cultural change and the mindset that we need to adopt. Government must begin to adopt best practices and stop viewing the private sector as a shining example to which government can never catch up to.

Can I ask you, Mr. Koskinen, how many of the agencies right now do not have permanent CIOs? Is there a problem in terms of getting qualified people? Is there some kind of resistance at the agency head level, to really turning to a qualified CIO and elevating him or her to that position?

Mr. KOSKINEN. No. I think that the fact that everyone doesn't have a CIO yet is a good sign, not a troubling one. It's good in the sense that our concern was that the agencies would simply turn around, find someone to give the title to, and announce they had a CIO.

I think the fact that the agencies are making a very good faith effort to respond to the guidance that we've given them, consistent with the requirements of the statute, is a positive indication that they are coming to grips with the difficulty of filling these spots.

We are going to have a series of meetings with several of the large agencies, not to complain, but basically to jointly try to figure out how to resolve that issue.

The good news in all of this is that, as your question implies, there are a number of very skillful and highly qualified people in the Federal Government right now. And we can rely on them. But

I think Mr. Hoenig's point is correct, the purpose of all of this is not simply to reshuffle the chairs or give everybody more visibility, although that's important. Ultimately, the purpose is to bring new talent into the system to buttress our existing talent. And that will be a longer term issue.

But we are now working with Presidential Personnel in this process and we have a roster of potential new hires who would make appropriate chief information officers. And we are using that roster as we work with the agencies.

Senator COHEN. Do you find that the agency heads now understand that the CIO is not just some computer whiz, not simply the computer guy, but rather is at the agency leadership table presenting direct input into the decision making, as far as the acquisition of technology relates to the mission-related activities of the agency? Have you found that this change is moving along well or not moving along well?

Mr. KOSKINEN. Well, I have decided that it's like a bell-shaped curve. At one end of the curve, you have some people who are doing very well and historically have recognized these issues. At the other end, you have some people who have yet to see the light. And, in the middle, you have a lot of people struggling to figure out what it means to them.

Our goal is to move that curve farther along the spectrum so that a year from now we can say that basically all of the agency heads are focused on this. We have spent three meetings of the President's Management Council with the chief operating officers, who are generally deputy secretaries, discussing this issue. We will discuss it again in August. So, I think, as you said, it takes time for cultures to change and for people to develop new perspectives, but I think we are making real progress in that direction.

Senator COHEN. What about the people in your own department such as the budget examiners, who now have to look at the individual agency budgets being proposed and make judgments based on whether there are, in fact, measurable performance standards that have been set. Will budget examiners ensure that reengineering has been proposed, that agencies have cost data to back it up, that projected returns are included in agency budget submissions that will be achieved through the acquisition of technology? Do you have qualified people within OMB that can now make that kind of determination or do you need to get new people?

Mr. KOSKINEN. Well, again, there is a training issue here to ensure that everybody understands the purpose of all of these changes. We have benefitted as I noted in my testimony, from working with GAO and there's a joint GAO-OIRA handbook, which has been out now for over a year, that basically lays out a lot of these fundamental principles and it is something the program examiners have used already.

The development of the A–11 and A–130 amendments and the planning guide is being done with the active involvement of a cross-OMB, agency-wide working group that serves to educate people and at, the same time, develop those materials. So we are confident OMB will be up to the task and will be able to engage the agencies in a meaningful dialogue.

But as you know, this is not a question of being a technological wizard. This is a question of understanding how decisions are made and being able to ensure that the processes provide appropriate information.

The final bottom line will be—and that's where I think FASA Title V and the ITMRA requirements come in, and ultimately where GPRA is headed—what was the performance? Did we get performance not only in terms of the time and the cost of the acquisition, but in terms of what the acquisition actually accomplished?

And, as I said, if there has been a gap in this process, it has been at the front end—did we ask the right questions about why are we doing this? The gap at the back end has not been closing the loop in terms of how the system actually performed once it was implemented?

Oftentimes, once we have a system in place, we simply run it without going back to see if it is doing what we expected.

Senator COHEN. Are there rewards that you intend to give for those who successfully implement these changes and penalties for those who fail to change? Will you withhold budget requests when they fail to measure up to the standards that are being set? What is the consequence of not meeting the standards?

Mr. KOSKINEN. Clearly, when an agency comes in and asks for budgetary approval for a major system, one of the questions everyone will ask is, what is this agency's experience and track record in being able to design, acquire, and manage such a system?

To the extent that there are clearly negative trends over time, we will then ask much harder questions about whether the agency is capable of actually pulling off that acquisition and, in a number of cases, we may require them to provide alternative ways of acquiring those systems if they can't do it themselves.

Senator COHEN. Who do you turn to, to make a judgment as to whether or not the expected return is realistic or has been inflated in order to acquire the system? Are you going to turn to the private sector and say, what's your experience? What's the guideline in making a judgment on the part of OMB as to whether the projected savings or efficiencies are unrealistically high?

Mr. KOSKINEN. Those are questions that vary depending on the system. There are a lot of systems with track records where the information is available. The much more difficult questions are those about the high-visibility, custom-designed systems where there isn't much of a benchmark. With regard to the former, benchmarks are available in terms of what the expected performance can be. We hope that we will have a capital planning process and a chief information officer that can articulate those effectively.

The more problematic question will be, both in the agencies and OMB, how do you evaluate a very complicated system? That goes back to a point both Mr. Hoenig and I have made, which the statute addresses glancingly, and that is the need to look at experience in the private sector. And the major mistake there is to take a complicated, customized system and buy it all at once.

If you look at a lot of our largest failures, they can be attributed to a procurement system that forced agencies to state what they wanted to buy over the next 10 years. And as you have noted, technology changes far too rapidly for that.

So, if we can move to more modular design and procurement system that allow us to catch mistakes earlier in the process, I think that will be how we will prevent large system failures rather than necessarily just being able to guess better at the front end.

With an 8- to 10-year projection of a major customized system, I don't know if there are any ways to actually know what the outcome is going to be. And that's the problem with doing it that way.

Senator COHEN. Mr. Hoenig, how do you intend to continue to monitor progress in implementing ITMRA? Is it something that has got to come from a Congressional initiative or is GAO going to be monitoring this on its own?

Mr. HOENIG. I have a couple of comments on that, Mr. Chairman, and one is that we do have an open request from your Subcommittee which we will be following through on for ongoing evaluation. We have just actually put together and published, in the last month—I have a copy of it here somewhere—a strategic plan, a three-year strategic plan for our entire division, in fact, for GAO, as a whole, on information technology issues which represents quite a number of staff years of work over the next 3 years.

And the center piece of this plan is implementation of the Information Technology Management Reform Act. So, we have all of our resources focused squarely on the issue of Information Technology Management Reform Act implementation. And we will be looking at it from two perspectives. One is, the Government-wide perspective and working, evaluating OMB, GSA, the inter-agency committees, all the different Government-wide entities that are involved, in terms of how implementation is going. And then we will also be looking at it from an agency-specific level, when we engage either at the IRS or at the FAA or at the National Institutes of Health, any particular agency we will be applying these criteria in our evaluation of those agencies to determine whether their capital investment planning, their reengineering, their performance measurement meet the standard, meet the test of the Information Technology Management Reform Act.

So, we will have all of our resources focused on this central theme.

Senator COHEN. All right. I want to thank both of you for appearing this morning. I think the progress toward implementing ITMRA has been truly encouraging. I think the leadership you have shown at OMB, Mr. Koskinen, and the kind of input that Mr. Hoenig and GAO have had over the last several years has made this possible. Ultimately I think the taxpayers are going to be impressed with what we're doing and hopefully we will start rebuilding the public's level of confidence in government.

Thank you very much, both of you.

Mr. HOENIG. Thank you, Mr. Chairman.

Mr. KOSKINEN. Thank you, Mr. Chairman.

Senator COHEN. Our second panel includes representatives from the Department of Defense, the Department of Housing and Urban Development, and the Federal CIO Working Group.

The first witness is Emmett Paige, who is the CIO for the Department of Defense and the Assistant Secretary of Defense for Command, Control, Communications and Intelligence. I want to thank Secretary Paige for allowing me to borrow Chris Condon of

his staff last year. Chris worked for me on the Subcommittee for several months as a Legis Fellow, and she played a critical role in drafting the legislation.

The second witness is Steven Yohai, who is the CIO nominee for the Department of Housing and Urban Development.

The final witness on the second panel is Joe Thompson. Mr. Thompson is currently at the General Services Administration, but for purposes of this hearing, he is going to share his perspective on ITMRA implementation as Chairman of the Federal CIO Working Group, and the group includes representatives from most of the Federal agencies that are going to be affected by the new law. So we welcome you.

Mr. Paige?

TESTIMONY OF EMMETT PAIGE, JR.,[1] ASSISTANT SECRETARY OF DEFENSE FOR COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE, U.S. DEPARTMENT OF DEFENSE

Mr. PAIGE. Thank you very much, Mr. Chairman and members of the Committee. It is indeed a pleasure to testify before you today on the progress of the Department of Defense's implementation of the Information Technology Management Reform Act of 1996.

You have my full prepared statement for the record.

Senator COHEN. It will be included in full.

Mr. PAIGE. First, let me thank the Chair of the Committee, you, Senator Cohen, Senator Levin, and Subcommittee members and the staff for your tremendous leadership in bringing about passage of ITMRA. To tackle the immense problem of reinventing IT acquisition and management within the Federal sector is no small feat. We wholeheartedly endorse its passage and are grateful for the member and staff dedication that has produced this bill.

I am one of the many who lived with the Brooks Act on both the industry side and the Government side of the ledger for many years. I was convinced that it had outlived its usefulness and was primarily serving to keep a lot of lawyers busy and costing industry and the taxpayers a lot of money.

I cannot think of or recall any law that has caused more frustration to me than the Brooks Act.

We in DOD are also very encouraged by the leadership that OMB has shown in its partnership with you in securing passage and in its continuing leadership in implementation efforts to date. We at DOD collaborated closely with OMB when that office initiated an in-depth executive branch rethinking of Federal sector information technology issues in 1995. We strongly support their efforts; their strategic view combines the best of agency autonomy and empowerment with targeted, focused, and, therefore, highly effective oversight.

ITMRA will undoubtedly revolutionize Federal sector information technology practices. Its requirements to require capital information technology investment analysis and link it with budget processes, to use business process re-engineering prior to substantial information technology acquisition, and to institutionalize performance measures and management will positively impact virtually all

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[1] The prepared statement of Mr. Paige appears on page 73.

aspects of executive branch management. It should also be a model for State and local government, and even for most of the commercial sector. The phenomenal growth in outsourcing information technology in the commercial sector is testimony to the fact that they, too, have serious problems in application of this rapidly evolving technology in an effective and efficient manner.

I am not here to tell you this morning that ITMRA is the answer to all of the Federal sector's problems in the acquisition and applications of this rapidly evolving technology. We simply must find ways to enable an overall acceleration in the total process. Control of the requirements process is extremely important, and it continues to haunt us during the acquisition process. Requirements creep is a major issue as one reviews implementation of major projects that have failed or that have experienced serious problems. Again, ITMRA is a major improvement and will help in all aspects, but I believe we still have a long ways to go.

Of course, the devil is in the details, particularly with legislation such as the ITMRA that mandates a fundamental or revolutionary policy shift. I am convinced that the top leadership in the Department of Defense are indeed deeply committed to aggressive implementation of ITMRA within the Department. But it is not the top leadership that causes me deep concern with moving ahead swiftly in implementing the ITMRA in the Department. It is the professional bureaucrats and their bosses, the functional proponents of a management information systems application that concern me. They are all nice people, but I can assure you that there is strong opposition to change. And opposition to change is not peculiar to ITMRA. It is just a part of human nature.

As you know, I have spent most of my life in the Department of Defense, most of it wearing a uniform, and I accepted the job as the ASD(C3I) certainly not because I needed a job or I needed money. I had a good job as the president and chief operating officer of a growing company in the information technology and aerospace industry, and the pay was good. I took the job as ASDC3I because I felt that I had retired from the military without completing a job that needed to be done. That was to bring about integrated, interoperable C4I systems in the Army. There was no doubt in my feeble mind that as the senior official in DOD with the responsibility for C4I systems that I could accomplish what had been impossible before because the folks in the comptroller community who were responsible for the administration and logistics of management information systems had opposed me at seemingly every turn. It was supposed to be easy now for me to make the needed improvements happen. After all, those folks who were in the comptroller shop in OSD back then and were responsible for those systems now work for the ASDCCCI.

But let me assure you here today that I have not been able to move this battleship called DOD very far in terms of course correction in my 3 years on the job. When I arrived here, we had a program called CIM, or the Corporate Information Management program, well underway and it enjoyed the necessary strong congressional support on a non-partisan basis on both sides of the aisle here on the Hill. And that support became fragmented and took on the air of politics as usual from my point of view 2 years ago. CIM

had opponents from the outset throughout DOD as it was indeed revolutionary change just as ITMRA is today.

As soon as there was a weakening of congressional support, the reluctant dragons came out of hiding, and the CIM effort is virtually dead, despite the billions in savings that it promised with up-front investment to implement the re-engineered processes and automated business applications.

Now, why have I spotlighted CIM as an example? It is because I am convinced that ITMRA is revolutionary, like CIM, as I said before. CIM was and CIM still is, and ITMRA could go down that same road. Those same dragons are there in the path. They are a little older, a little stronger, and in some cases a little more entrenched. Our job is not to slay them, but I believe it is to convince them that we must be permitted to be their partners and teammates with equal access.

ITMRA creates a CIO and puts that individual into the rice bowls now closely guarded and protected by others. They are not going to open the doors quickly or easily. I submit that it will not only require the top leadership or the total support of the top leadership in the Department of Defense to make ITMRA successful. It will take the concerted, long-term interest and involvement of Congress for at least 10 years to make ITMRA a success. Unfortunately, you are leaving, but I will tell you that, like me, maybe we will be on the outside, and the success of ITMRA will come about because of our lobbying from our new bully pulpits as opposed to being inside the system.

I have accepted the challenge to give ITMRA my very best shot, and I am certain that Dr. Perry and Dr. White will do the same.

Again, I want to thank the Subcommittee members, the staff, OMB, and the GSA leadership for all that has been done to get ITMRA enacted and implemented. I want to also assure you that my staff will continue to work closely with everyone to successfully implement the act.

We will gladly share our experiences and our tools with any and every one in Government, industry—State or local, Federal, it doesn't matter.

With that, I await your questions, and hopefully as you depart, the other Committees and other members of this Committee will pick up the baton and carry forward with it. Otherwise, if not, the act will fail.

Senator COHEN. Thank you very much, Mr. Paige. We will return to that question momentarily.

Mr. Yohai?

TESTIMONY OF STEVEN M. YOHAI,[1] CHIEF INFORMATION OFFICER AND DIRECTOR, OFFICE OF INFORMATION TECHNOLOGY, U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Mr. YOHAI. Good morning, Mr. Chairman. Thank you for the opportunity to share with this Committee HUD's experience to date and our plans for continuing implementation of the ITMRA.

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[1] The prepared statement of Mr. Yohai appears on page 93.

HUD has made significant progress striving to achieve the guidelines set forth in the ITMRA. HUD is currently in the final stages of an agency-wide information strategy plan. This plan will document HUD's information architecture necessary to support the agency's Management Action Plan for the future, which is entitled "Transforming HUD into a Streamlined, Community-First Cabinet Agency." This information strategy plan will assess current systems, identify new systems, and document a strategic plan that takes us from today's technology to tomorrow's technology.

HUD's Technology Investment Board, with senior representation from every program office in the agency and chaired by the CIO, will the take this plan and use it to evaluate and prioritize every and all potential IT projects and expenditures for fiscal year 1997, whether these are operations and maintenance of existing systems or development of new systems.

After discussion and several weeks of negotiation, the Technology Investment Board will recommend an IT investment portfolio for approval by the agency's executive-level Management Committee. The Management Committee is chaired by the Deputy Secretary. The voting members are the program Assistant Secretaries, the CFO, the inspector general, the general counsel, and the CIO. The Management Committee reviews the Technology Investment Board recommendations and gives final approval. This Management Committee is the same committee identified in the agency Management Action Plan as being responsible to guide and monitor the restructuring of the agency in the coming months and years.

The CIO also serves at HUD as Director of the Office of Information Technology. In that role, I deliver the products and services identified in the information technology investment portfolio for the upcoming fiscal year. The Technology Investment Board meets monthly thereafter to review project investments, project progress, and, as Chairman of the TIB, the Technology Investment Board, I update the Management Committee immediately following each of the Technology Investment Board meetings.

HUD has already realized short-term benefits from implementation of the ITMRA as designation of the CIO position at HUD has re-emphasized and increased the visibility of IT investments as a strategic agency tool.

Over the past few months, the Technology Investment Board and the Management Committee that I identified earlier has increased the intensity of the oversight of IT investments at the agency. A major project, the largest development project in the agency, was ratcheted down, reassessed, and redirected to bring it back in line with agency objectives.

I believe over the longer term full implementation of the ITMRA will result in more routine and rigorous consideration of IT investments in day-to-day strategic decisionmaking.

Thank you for the opportunity to share HUD's ITMRA achievements and plans. I would be happy to answer any questions.

Senator COHEN. Thank you, Mr. Yohai.

Mr. Thompson?

TESTIMONY OF JOE M. THOMPSON,[1] CHAIRMAN, FEDERAL CHIEF INFORMATION OFFICER WORKING GROUP, GENERAL SERVICES ADMINISTRATION

Mr. THOMPSON. Good morning, Mr. Chairman. Thank you for the opportunity to speak to you today about the implementation of the CIO concept throughout the Federal Government.

I have submitted for the record full testimony of some 18 pages. However, in the months since the Reform Act was passed, 80 senior executives we called together from 28 departments and independent agencies, as well as two private industry associations, with more than 100 participating members, joined together in what has been a Federal CIO Working Group to help implement the CIO concept as contained in the legislation. The Working Group has been providing input both to your staff, to others in Congress, and to OMB as we have moved forward over the last 5 months. We will have a final report, recommending many of the changes that were specified in the act.

I would like to spend just a few minutes covering just three of the recommendations out of the 12 that will be contained in the final report.

Number one. Thanks to you and the Congress and the administration, we have a number of legislative mandates. We have FASA, we have FASA II, and now we have ITMRA—all since Roger Johnson, you, and John Koskinen began to work on this problem in 1993. However, neither the spirit nor the results of these mandates will be realized without the right people at the top. Selection of the best qualified people for the Chief Information Officer job will be crucial. We must be sure to find CIOs with proven leadership, business and management capability, as well as technical skills. There are many good candidates in Government who meet these qualifications. But there are also more in private industry who, in addition to bringing private business knowledge and experience to the Federal sector, can bring an infusion of CIO ideas, skills, and talents from organizations outside of Government. This will help ensure that this act is implemented in the way that it has been envisioned.

When we look at the private sector, we see that they have had 3 to 5 years of experience with the CIO concept. We need to have some of that experience as a part of our start-up efforts. I think 50 percent of the new CIOs should be considered from the private sector.

Point number two. Although it is not covered in the legislation, the CIO Working Group has found that successful enterprises, both government and private business—and we are talking about the 17 to 20 most successful companies out of the Fortune 500—rely on collective decisionmaking power of an Executive Management Group to carry out the capital planning and the investment control process. This group can be called by different titles. It can be called an Investment Board or an Executive Committee. In our agency, the General Services Administration, we have established a Business Technology Council chaired by the Deputy Administrator, with members including myself, the CFO, and the Commissioners

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who are the heads of each of the agency's business lines. This working group feels that every agency should form such a committee to ensure that management's commitment to the capital planning process is a success.

Third, and finally. We should not forget that ultimately the Cabinet Secretary, the head of the agency, or the CIO is the one responsible for capital planning and the agency's budget, just as the legislation provided. As David Barram, GSA's current Acting Administrator, has said, "No one should be uncertain what the agency's priorities are. While the CIO has responsibility for pulling together all the thinking and plans of the departments or bureaus, the agency head needs to retain the authority and responsibility for approving final investments."

In conclusion, while every agency and CIO faces these issues that are unique to their organization, the working group has found that certain basic principles are essential for a successful CIO, whether it be in either the public or the private sector.

I would like to thank the Subcommittee again for this opportunity to speak, and I would like to say personally to you that your leadership in this area has been a crowning point for me personally. When I came to Washington in 1993, I came to make a difference and because I saw an opportunity to make changes in a way that would benefit the American public. Without Paul Brubaker's help and Bill Greenwalt's assistance, we would never have gotten to this point.

Thank you very much.

Senator COHEN. Thank you very much, Mr. Thompson. You came in 1993. It is only 1996. In 3 years you have made a substantial difference. It has taken me almost 24 years to have this impact. And I am not sure I have the performance measurement standards that are quite as dramatic as those that you have presented.

Mr. Paige, as you have indicated, there are a lot of gremlins out there who are dedicated to perhaps frustrating and nullifying or stultifying what we seek to achieve through this legislation. I might point out your background as a former military man, once having worn a uniform, I believe a Lieutenant General. And I see another General sitting behind you. We had a similar problem when we tried to reform the Joint Chiefs of Staff. You may recall reading about this battle if you were not directly involved in it. At that time, Congress was accused of being involved in micromanaging the Pentagon. And an effort was underway on Capitol Hill—I was part of it—to change the system to say we needed to make it more efficient, to give the Chairman of the Joint Chiefs more power, that we had to delegate more responsibility out to the CINCs in the field, and there was organized opposition. There was a war room over in the Pentagon with a direct line into the Armed Services Committee anteroom, lobbying amendment after amendment over the telephone line to see if they couldn't frustrate the passage of that legislation.

We finally overcame and passed it. And guess what? The Pentagon I think is the first one to say thank you for intervening and micromanaging this particular piece of legislation because it worked well. Desert Storm I think was the crowning example of that. General Powell, the former Chairman of the Joint Chiefs, tes-

tified on a number of occasions that the so-called Goldwater-Nickles Act was, in fact, a very major contribution to the success of Desert Storm.

So we understand that there is organized opposition sometimes to Congress trying to intervene in executive branch matters. But this is one area, I think, where we have had just the opposite take place. We have had cooperation from the executive branch in realizing this has to be done, and I think that you are entirely correct that if we don't maintain the pressure, if it doesn't come from within the executive branch with strong oversight by the Congress, then this will be just like another piece of legislation, well intentioned but largely ignored. It is going to take a lot of good people coming back into service and continuing service to maintain the momentum that it has.

I was curious in terms of your position, formerly wearing a uniform, you are now dual-hatted, being responsible for C3I and you will be the CIO within DOD. How will you manage to do both given the fact that your primary responsibility is now a CIO? Under the legislation, the CIO role is your primary duty, but you have got a heavy responsibility over there as far as Command, Control, Communications and Intelligence?

Mr. PAIGE. Well, that is, as I see it, no conflict at all, primarily because the Department of Defense had recognized long ago that the information technology business and the C3 or C4I business all cannot be separated. As a matter of fact, we consolidated the automation of the computer responsibilities that were fragmented within the Department. As I said in my opening statement earlier, the comptroller had that responsibility while the Assistant Secretary for C3I had responsibility for the command and control systems and the automation that went with that.

Information technology is heavily into everything that we do in DOD. Certainly no commander will be able to execute a campaign without those systems we refer to as management information systems. I referred to them in my opening statement as the administration and logistics systems. And those things were already under me as the ASD(C3I). So when one translates all the responsibilities that were outlined for the CIO and those responsibilities and authorities that are already on the table for the CIO, they will translate directly.

Senator COHEN. But you have the responsibility not only of being the CIO for DOD, but now you have got to interrelated with all the CIOs of various services as well. That is going to be a pretty heavy responsibility dealing with the reformation of that system and still dealing with the C3I responsibilities that you have, isn't it?

Mr. PAIGE. No, sir. I don't think so. As a matter of fact, I have representatives of the CIO community and the agencies back here. That is the reason you see that three-star back there. And some of my fellow civilians—I refer to them fondly as "white shirts"—from the Military Services are back there also. They, too, have that same responsibility. And my intention is to not fragment the information technology responsibilities or the information systems and information services responsibilities between any element of the Department and the CIO of that Department. I want them to be there overlooking, overseeing the total operation, even to include

the command and control systems that are related with weapons systems.

Senator COHEN. Mr. Paige, in your prepared statement, you indicated that the existing planning and programming and budgeting system, the so-called PPBS, is going to remain substantially intact. As I understand it, the existing system focuses on costs and not results and doesn't include the mechanisms that we heard from the first panel that are necessary, number one, for measuring the return on investment and, number two, for linking investments in information technology to reduced operational costs or performance improvements. So the question is: How are we going to substantially change the program and planning at DOD if it doesn't include the performance measures and investment controls which the first panel indicated would be vital in order to achieve results?

Mr. PAIGE. I agree that those things are vital, and you will also note in my prepared statement that I talked about the Defense Planning Guidance system and PPBS in a little detail. Already we are in the process of working, have integrated process action teams working with all of the Department activities to include the services, and looking at how we are going to alter or modify PPBS to include those things that are required by ITMRA.

This afternoon we will have a meeting of all the proposed CIOs from the major elements in the Department, and we will get a progress report from each of the teams, and I would expect that the battle will begin there as to what will change or what should be changed and what should not be changed.

As I said in my opening statement, the fight will be a tough one. I know that. But we are going to press on and——

Senator COHEN. Why do you think there is going to be a fight? Why should there be a fight if we all, as common-sense people, recognize that this is simply a sound way of "doing business" on behalf of the Government of the United States and taxpayers?

Mr. PAIGE. Somebody new sitting at the table and having equal access in the decisionmaking process, the allocation process, and it will take time to wear them down, to convince them that that is necessary and that this isn't the CIOs' process, this is the DOD's process. It is their process. And that is the task that I will have and the top leadership will have to drive that home within the Department. Just as it took time to do the Packard Commission study and to really get that ingrained, institutionalized within the Department, I think it is going to take time here, too.

Senator COHEN. You do anticipate, then, modifying the PPBS to include the kind of performance measurement standards and the cost analysis in order to achieve the best possible results? You intend to pursue that, do you not?

Mr. PAIGE. Yes, we intend to pursue that, and I believe that it is important if ITMRA is to be successful within the Department of Defense that it become a part of that ingrained process.

Senator COHEN. We have been receiving complaints, for example, from some agencies saying they are spending too much time trying to develop baseline data, and that the performance measures take time and people away from acquiring the technology itself. The complaint is that agencies are spending too much time analyzing,

and not enough time acquiring. Are you finding that, Mr. Yohai and Mr. Thompson? Is that a problem within HUD or GSA?

Mr. YOHAI. I think it is a challenge to invest the kind of time you need to have structures in place to assure that there is adequate performance measurement on your projects and on delivering the investment, the investments that are made by the agency. I don't think it is an inordinate investment, one that would preclude making progress against immediate goals, immediate objectives. We are trying to accomplish both at the agency. We are trying to put the framework in place so that we are accountable for the investments that we. make in information technology, and also have a very ambitious agenda for delivering new systems to support what is a very ambitious agenda for restructuring of the agency.

Senator COHEN. Mr. Thompson?

Mr. THOMPSON. Mr. Chairman, we find that when the business goals are disconnected from the application of technology, those are the kinds of problems that ensue. One of the reasons that we think that it is necessary, therefore, to have an executive committee look at investments is that you are having the higher levels of management, the Secretaries and those who are involved, link the business goals to the power of technology in order to make those results become a reality. Then the capital planning and the planning upfront and the measurable benchmark results against world-class industry and the benchmarking shows that the results you are going to get is not only going to be timely, cost-effective, but is going to be comparable to any of the best results. And that kind of linkage is the kind of communication and the kind of leadership, and where that is absent and where the business goals have not been linked to the technology, that absolutely occurs.

Mr. PAIGE. And I concur 100 percent with that, and we in the Department are not going to try and create a bureaucratic workload that will break the system down in terms of implementation and performance. Performance measures are necessary, and we will, indeed, institute those throughout the Department.

Senator COHEN. With respect to acquiring new systems, as you know, in the military we now are building and designing systems to anticipate that technology is changing so rapidly that we want to leave space. We design our systems so that we can just take a component and insert it in the major system. This is sometimes referred to as containerization and so forth. This also has to be done as far as acquiring new technologies. You heard from the first panel that we want to try to avoid, as much as possible, trying to procure mega systems that are going to last us 10 and 20 years when technology is going to change so rapidly that it will be largely obsolete long before the system's intended lifespan.

What is DOD doing in that respect in terms of approaching information technology acquisition on a more modest or incremental basis as opposed to focusing on large systems?

Mr. PAIGE. We have something called a common operating environment. That common operating environment—and also a TAFIM (Technical Architecture Framework for Information Management). But that common operating environment is the vehicle to ensure that we can move things out, move things in, and will not be hampered by technology.

Now, we are not using different techniques for your administration and logistics systems or your MIS systems than we are using for command and control systems. Those same standards, those same protocols and ways of doing business are equally as good with your weapons systems, your command and control systems, and your so-called MIS systems.

Senator COHEN. Do you have a complete portfolio of your IT investments in DOD, Mr. Paige?

Mr. PAIGE. A complete portfolio in terms of what we are spending each year, yes, we do.

Senator COHEN. And what do you anticipate to be spending in the coming years?

Mr. PAIGE. We have that, and we fight about it every year.

Senator COHEN. Mr. Yohai?

Mr. YOHAI. Yes, we do. We have a very detailed investment portfolio that went through the process of evaluation and review and approval that I described in my opening comments.

Senator COHEN. And how do you go about prioritizing? You have got the investment portfolio over here. Some systems are outdated and need to be re-engineered and perhaps upgraded while other systems need to be replaced. How do you go about prioritizing that list taking into account your current inventory of systems? What are the criteria you use?

Mr. YOHAI. We begin each fiscal year with some guiding documents that describe where the agency is going for the next year and the years following. From that document, we take all potential projects in the information technology realm and score them in terms of the benefits as they relate to those agency plans for the mission and against costs. And we score them and rank them, prepare that information and make it available to the Technology Investment Board, again, made up of senior representation from the program areas within the agency; and from that point, the decisions as to what gets funded and what doesn't gets negotiated at that table, and a final recommendation is made by the Management Committee.

Senator COHEN. Mr. Thompson?

Mr. THOMPSON. The capital plan which you put in the legislation is the framework from which we are able to manage these investments. I might add that GAO and OMB put together an investment guide that the agencies have also had some input in, and it contains looking at these investments, whether they are ongoing, already started, whether they are new investments, or whether they are between the two. And in this regard, they are not to be looked at as a one-time investment. Yes, we do know what our investments are in GSA; $250 million is the amount. That is a capitalized investment portfolio that covers a number of major initiatives. We know what those initiatives are, but they are not just looked at at the beginning. They are looked at; they have a track record. We have measurable outcomes on expenditures and what you expect to get from those in terms of time frame, in terms of return on investment, in terms of shortening of the period in order to respond to a customer, et cetera, et cetera. Those are measured against a time line, stopped if they are not proceeding along the line, and then re-evaluated.

That process of looking at the capital investment on the expenditures versus a benchmark standard that Government and the private sector would be using in that same procurement is one of them. Let me give you one short example.

The Public Buildings Services is beginning to look at leasing and it wanted, in order to be able to do that, to be able to look at al of its building inventories nationwide, which is some 7,000 buildings. We know the process that we have now and how long it takes to go in and look for a particular building and find it. We know how much it costs us to run that particular kind of system. We know how many people are involved.

We have now looked in the private sector and looked at similar Fortune 500 companies who have buildings, such as AT&T, which has a lot of buildings across the Nation, and BOMA, whose members have a lot of buildings. We are looking at their systems, benchmarking them as to how they obtain information on their lease space, what it costs, how it functions, and then build our plan on doing that incrementally moving out of the ones.

This business of managing by a capital plan means continuous management. It is a never-ending process of improvement.

Senator COHEN. As you just pointed out, HUD and Health and Human Services, for example, have field offices spread all over the country. How do you maintain control over those individual offices which may have older systems, which may be planning their own upgrades, in order to make sure those field systems are achieving the kinds of goals that we are setting forth here in HUD or HHS headquarters?

Mr. THOMPSON. Those get covered in the capital plan because the beginning of that plan includes with it an inventory linked to performance.

Senator COHEN. Mr. Yohai?

Mr. YOHAI. At HUD, the agency business does not vary tremendously from field office to field office or from field office to headquarters. Because of that, we have had a big success in standardizing our technical infrastructure. Virtually every HUD employee has a workstation that can access every agency system. They may not need to access all agency systems, but they have the capability of doing so. The standard environment also pays huge dividends when it comes time to implementing a system, as we have assurances that systems that we build and test in Washington or in the field will work in other locations.

Mr. PAIGE. I don't want to leave here and leave you with the impression that within DOD we are all OK when it comes to being able to prioritize all of our systems. When we are talking about command and control of weapons systems, that is not a big deal; that is not a problem. We do that well. When it comes to those administration and logistics systems or those so-called management information systems, we do that horribly. Those are stovepipe systems primarily in the Department of Defense throughout, to include the Services, and the Marine Corps is better off than most. And the functional proponents, each and every one of them, want their systems to have top priority. We don't have the time, but I could give you an example where last year we went through an exercise of trying to prioritize all of the improvements and those ex-

isting systems out there, improvements, enhancements, replacements, and spent a lot of time, a team of people coming up with it, thought we had it nailed down, and as soon as it hit the political appointees, the senior people, the screaming started, and we went through another process.

So I think ITMRA will help us when it comes to managing, building, prioritizing those day-to-day systems, those administration and support systems.

Senator COHEN. Mr. Thompson, Senator Levin wanted me to ask this question on his behalf. He wanted to know what has happened to the staff which the GSA had employed to meet the Brooks Act requirements, which no longer exist. What has happened to them?

Mr. THOMPSON. Within GSA, we have reduced the overall personnel requirements on the order of about 20 percent. We have improved our performance on the order of about 17 percent. We have improved our service level. Most of those employees have found gainful employment in other areas. They have been re-deployed to business units within the agency doing service functions as opposed to doing information-gathering functions. And many of them have gone to other agencies. We have not had one single layoff or RIF in that process. Many of them are also being retrained in order to function in more effective and productive ways.

Senator COHEN. Mr. Yohai, when were you appointed as CIO?

Mr. YOHAI. January of this year.

Senator COHEN. And can you tell me what the nature of your relationship is with the head of the agency? How often do you meet with Secretary Cisneros?

Mr. YOHAI. I became the Director of Information Technology in October. I was designated CIO in January. Since January I have met with the Secretary two or three times to discuss how—Mr. Cisneros wanted assurances from me that the objectives that he has set forth for the agency, a very aggressive restructuring program, would be adequately supported by technology. Again, two, maybe three times since then.

Senator COHEN. Do you feel you have adequate access to the Department head?

Mr. YOHAI. Yes, I do. Mr. Cisneros is very interested in the technology elements of the transformation that he plans for the agency. Aside from these meetings, I feel that if a crisis were to occur in delivering those services in support of his agenda, I could get in to see him at a moment's notice. I also have had frequent conversations with the Deputy Secretary on similar matters.

Senator COHEN. Mr. Paige, I would like to be a fly on the wall or even a participant in that meeting this afternoon. But I suspect that——

Mr. PAIGE. Maybe we can give you a mask and a wig or something and bring you in there. They probably wouldn't know who you were, anyway. [Laughter.]

Senator COHEN. What would my constituents think?

Mr. PAIGE. I wouldn't tell.

Senator COHEN. I know you didn't refer to your colleagues as pointy-headed bureaucrats, but if they were, they would be flat-headed by the time they come out of that meeting. I am sure that

you are going to exercise a very heavy hammer in knocking down any attitudes about undermining the legislation.

Let me just summarize again for this panel the objectives of ITMRA. You all know what they are, but let me summarize the purpose of the legislation and what we hope to achieve.

First, top management has to become much more heavily involved in technology management.

Second, we have to focus on results rather than process. The last thing we want to do is go through a whole paper exercise where cost data, performance measures, and other indicators are all established and we have reams of paper, which is then submitted up the chain of command, so to speak. It would simply become a paper chase or a paper process. What we want to focus on are meaningful results rather than a meaningless paper process.

Third, something you, Mr. Thompson, have stressed in your opening remarks, we need qualified CIOs. This is something that is absolutely vital. We have to get the best possible people to be the CIOs.

Fourth, there has to be a cultural change. Mr. Paige has talked about the cultural change. It is going to be hard to come by not only in DOD but in many of our agencies.

Fifth, OMB has to have an instrumental, ongoing, aggressive role in the implementation of this legislation.

And, finally, we have to have a new ethic or ethos stressing investment, performance, and return. Those are the key elements that we are all seeking to achieve, and I want to say that I have been most impressed with the testimony we have had this morning from the first panel and from this panel. There is, in fact, a determination on the part of the executive branch to achieve these articulated goals. I want to thank each of you for coming forward today to lend your testimony to that effort.

Thank you.

Mr. PAIGE. Thank you for the opportunity.

Mr. YOHAI. Thank you.

Mr. THOMPSON. Thank you.

Senator COHEN. I would like to welcome our third panel this morning. The first witness of our third panel is Alan Hald, who is president of MicroAge. This morning Mr. Hald is here in his capacity as president of the Computing Technology Industry Association, or CompTIA, which represents more than 6,000 computer resellers and manufacturers, software publishers, distributors, and service companies. Mr. Hald, welcome.

I also want to welcome Stephen Smith from Andersen Consulting. Mr. Smith is a recognized expert in the field of business process re-engineering and best practices.

And, finally, Mr. Milton Cooper, president of Computer Sciences Corporation, Federal Operations.

Mr. Hald, perhaps you should begin.

TESTIMONY OF ALAN HALD,[1] VICE CHAIRMAN, MICROAGE INC., AND CHAIRMAN, COMPUTING TECHNOLOGY INDUSTRY ASSOCIATION PUBLIC POLICY COMMITTEE

Mr. HALD. Mr. Chairman and members of the Committee, good morning. My name is Alan Hald. As you mentioned, I am the co-founder and Vice Chairman of MicroAge Inc. It has grown to a For-tune 500 company as an international distributor and systems inte-grator, providing information technology through a wide number of computer dealers, value-added resellers, and systems integrators. I am also Chairman of the Computing Technology Industry Associa-tion, as you mentioned. This association is a value chain associa-tion that includes 6,300 members representing microcomputer re-sellers, equipment and semiconductor manufacturers like Intel, Compaq, and IBM, software publishers like Microsoft and Novell, distributors, integrators, service, and even long-distance telephone companies. The vast majority of our membership are smaller busi-nesses.

Several years ago, when the recent round of reforms began, MicroAge took a new look at the Federal market. At that time there were stories of Government procurement that in many ways were horror stories about the complexity, inconsistent and unfair treatment of suppliers, restrictive regulations, and unwarranted in-trusion of Government into business operations. They abounded. It was kind of scary, frankly, and like many other companies in our industry, we essentially avoided Government work based on an as-sessment that selling to the Government was a game only for insid-ers, was too expensive, and only for those willing to learn a totally new market and invest substantial amounts in internal infrastruc-ture to break into it, and put up with numerous aggravations of selling to the Government. So we stayed out of it, and we grew a $3 billion business without it. Put simply, the Government market-place is nothing like the one we are used to and accustomed to.

As the recent Government reforms began to take shape, we start-ed to take more interest and concluded that there were substantial changes, and we were heartened by the new procedures outlined in the Government's new regulations, and we became involved early on with the GSA in testing some of those. That established essen-tially a common-sense procurement method, in many ways similar to what we had experienced in the commercial marketplace.

After the recent reform, we concluded that our prospects of being successful were much higher and the investments were lower and the risks were quite a bit lower. So as a result of that, we made the decision really to enter into the Government marketplace last year. We will soon be opening up a Washington office.

We see many ways in which ITMRA will allow the Government to obtain the most appropriate technology solutions. For example, we are encouraged by the movement to a decentralized acquisition model. In fact, I view this as sort of the Government is deregulat-ing its procurement process in which Federal agencies will be af-forded broad discretion to determine what technology solutions they need to most effectively accomplish their mission, similar to what commercial businesses now do. This discretion is particularly

appealing because many in our industry perceive the current model of centralized information technology acquisition through GSA as unduly bureaucratic and somewhat cumbersome.

We are also encouraged by the consideration of pilot programs that permit some experimentation to help the Government find technology solutions to improve its mission and administrative processes and share in the rewards of successful solutions. We are particularly pleased that under ITMRA the Government will consider outsourcing information technology support to private contractors. We urge you to seek input from small businesses who can provide responsive and competitive local service and support, which I think will be essential in this process.

Another heartening ITMRA development is the creation of the chief information office, which would have just talked about, within the agencies, which will lend clear accountability for agency information technology management. We are hopeful that agency CIOs like their commercial counterparts will address issues such as standardization and the coordination of support services that will help the Government work faster, better, and cheaper. In commercial business, this is an extremely important role that is played in helping to rationalize information systems.

The ITMRA initiatives towards modular contracting are also a positive step towards commercializing Federal information technology procurements. CompTIA strongly endorsed this concept because modular contracting will enhance the competitive opportunities in the acquisition process and provide the Government customer with the benefits that come from a robust, competitive environment.

We are encouraged by the further development of FACNET to include on-line automation of Multiple Award Schedule contracting and product and service information. This is particularly important because the GSA schedule is the primary vehicle for Government information technology purchases. Recently, the Government made the GSA schedule easier to use and facilitated the Government's preference for commercial items by allowing companies to provide spot pricing for products—which, by the way, I think was a great innovation—and removing maximum order limitation restrictions. The FACNET enhancements under ITMRA, in conjunction with these recent GSA schedule improvements, will open the Government information technology market to many technology companies that before would not compete in the Federal marketplace—again, which will help bring better pricing but, more important, better levels of service.

However, there are rough edges. I have five recommendations I would like to cover.

First, expose Federal regulators, writers, contract managers, and others to the commercial market. For example, my company's sales staff does not see Federal contracting personnel at national trade shows. My own buyers and procurement rulemakers do not know and have never met any of their counterparts in the Federal marketplace, and I believe the same goes for many of our customers, buyers, and rulemakers, as well as our competitors. This raises the question: How can Federal buyers operate like their counterparts

in the commercial marketplace if they do not know how and have rarely spoken with anyone in that line of work?

Senator COHEN. Of course, by contrast, your attitude prior to the passage of the legislation was to stay as far away from the Government as possible.

Mr. HALD. Absolutely. So we see some common ground now. We can get together and talk and learn each other's businesses.

We suggest a mechanism to facilitate peer exchanges between industry and Government to smooth the transition to a commercial process.

Many of our concerns in this area arise from the fact that Government contracting personnel may have little experience with the workings of the commercial marketplace. With the advent and benefits of commercialization, the Government is being asked to do thing that it has never done before when acquiring technology—as you mentioned earlier, cultural change. The issues are not only technical, but reflect fundamental cultural differences. And our experience is the hardest problems are the people issues to overcome in a process change, getting people to change the way they work together.

The cultural differences dictate a need for continuous dialogue between Government CIOs and their private industry counterparts. That is another important element.

Second, consider further extending the scope of outsourcing to include support services offerings, integrated solutions, and even outsourcing portions of the procurement process for PC and distributing computing technology to companies that know the ropes and are at the leading edge of electronic commerce technology. This is what is now being done in the commercial marketplace. The ITMRA supports this approach, which can help Federal agencies determine the best way to allocate funds for technology solutions to accomplish their missions.

The third recommendation, the Government should examine multi-year funding of large-scale information technology contracts, and it is now being done. Looking back at years of legislative action on the information technology acquisition process, it becomes clear that while many improvements have been made, the gains are only beginning.

A fundamental distortion in the relationship between industry and Government, especially in the case of multi-year, large-scale information technology contracts, has made it difficult for Government to share in the benefits of shorter cycle times, improved conformance to performance metrics, and lower costs now realized by the commercial sector. An examination of these contracts and the relationship between industry and Government may facilitate a paradigm shift in the vendor-Government relationship that is required to provide Government with the benefits of true commercialization.

Senator COHEN. One of the difficulties here, of course, is when you are talking about multi-year procurement of large systems. The legislation discourages large-scale acquisitions and instead, promotes incremental acquisitions. So, while multi-year procurement for a very large system may make sense, we are trying to downplay

the practice of turning to mega systems procurements and replacing that strategy with a more modular and incremental approach.

Mr. HALD. Right, and I think this is some common ground, too, because there is often the need for integration, because the technology is complex and the solutions are—if you do them just pure piecemeal, you may optimize the cost of any one piece, but dramatically sub-optimize the end-to-end process.

Now, I am not advocating returning to mega projects, but what I am saying is that notably the value gains from deploying industry standard technology—industry standard technology—and services to deliver mass customized solutions through commercial channels is what you are trying to achieve. And that requires a degree of integration, but at a different level. We call it bottom-up integration rather than top-down integration.

The fourth recommendation, while modular contracting is a useful tool that may enhance competitive opportunities in the acquisition process, in many ways the preferred tool, it is not necessarily the right tool or the appropriate tool in all situations. We should look at other models that may provide better end results.

We recommend that regulatory implementation of ITMRA and accompanying guidance recognize that no single approach, whether it be modular contracting, delivery of integrated services, or full-scale, large-scale systems integration, will meet all the needs of the government and that there will be a combination of approaches that will be required, and the flexibility should be available to the local procurement officers to choose a method that makes sense.

And the final recommendation, while the repeal of the Brooks Act will likely contribute to the goal of faster, more efficient acquisition of technology resources, we believe vendors still need adequate remedy for procurement controversies. These interests are really highlighted by such factors as the Government's expanded use of best-value procurements, which I believe are good, and consideration of past performance, which I also believe is valid, as a significant factor in awarding contracts. Given the Government's interest in empowering contracting officials, we believe it is necessary to develop an enhanced management oversight process of the contracting function within agencies, particularly given the visibility of what the Government does.

Senator COHEN. As you know, I think that you initially were opposed to or questioned the need to eliminate the GSBCA, or the General Services Board of Contract Appeals' role in hearing bid protests involving information technology. However, what we found there was that the system was being gamed. For example, in some cases those who were competing for contracts knew in advance that the decision was likely to be appealed under any circumstances, had factored that delay and cost into their strategy. In other cases, the length of time it would take to address a protest discouraged many potential vendors from even competing. In addition, we could find no real logical distinction as to why information technology systems should have a separate appeals process as opposed to going to GAO, as is currently the situation for everything else the Federal Government buys, including every major weapons system. So we found no rational reason why the Federal Government pur-

chases of information technology systems should have a separate line of appeal.

Mr. HALD. I think part of the—although, you see, as I reworded my statement, I took some of that into account as I felt it didn't fully express my thoughts, at least the interpretation of what we are trying to say. Whether it is to GSBCA, which we felt—when it was implemented, it assumed that neither party had a correct position. Of course, the GAO assumes the Government is correct, and you have to prove why it is not. So it does provide a predisposition in favor of the Government.

However, putting all that aside, what you have in the private sector is contracting professionals have more discretion than their Government counterparts, but their performance is continually measured against commercial imperatives to remain competitive and profitable, which is a very powerful, controlling factor in what they do and choose to do and how they behave.

With fewer restrictions and more latitude, Government contracting officers and program managers need to be held accountable for their decisions—a key point—against a matrix which aligns with agency operational mission objectives. That is important.

We must therefore strive to achieve a delicate balance. More discretion will enhance the Government's ability to obtain technology solutions in an effective manner, yet inappropriately applied discretion can lead to an environment of favoritism and mistreatment.

Bid protest procedures are a two-edged sword. They can be used to protect, especially for small businesses, protect them from abuse of the system, or they can be misused as a competitive weapon, typically by larger organizations, to delay and contest appropriately awarded contracts. And that is a big issue. I have seen that happen in contracts myself. I find that very annoying.

While bid protests should not be used imprudently or simply for a realization of strategic gain, typically smaller businesses cannot afford to use those procedures to thwart fair procurement decisions. So the issue is we need to have something in place or an oversight process that essentially, as we move to a more commercial market model for procurement, we will see these becoming more evident, because more discretion will occur. And there will be a small percentage of situations where things aren't done the way they should be done. The Committee should monitor the situation closely and consider enhancements to the bid protest process to ensure that the Government procurements are conducted properly and in accordance with applicable law.

Specifically, clearly written specifications, properly crafted and followed evaluation factors and conformance to standard procurement policies, these to me are the key issues in creating a level and a common playing field. That is what you need to do, a level and common playing field for all competitors, regardless of size, that allows full and open competition, a practice endorsed by the broad coalition of small businesses including the Small Business Legislative Council, the U.S. Chamber of Commerce, and the National Association of Women Business Owners.

In summary—almost in summary, I believe local services are very important. This new standard should be watched carefully over 3 years of its authorization to make sure that the taxpayer,

the Government, and the small businesses are all treated fairly. Many smaller computer resellers are well positioned to provide services locally, but this is a major change to how agencies do business today. Old habits die hard. And unless these changes are monitored, you may find out that the old system sustains itself.

Only time will tell how my company will fare under these changes to the Government marketplace. However, there is substantial evidence that new companies have already been able to enter the Federal market as a result of the recent changes in the procurement landscape. As a result, the Government will reap considerable savings, just as the commercial sector has realized savings in the last 10 years. As FAR and FASA regulations are refined and ITMRA regulations implemented, even more opportunities will be created for companies who wish to enter the Federal market or expand their presence.

We compliment you and other members of the Committee for the role in this process for these successes. Supporters of this reform in both the Congress and administration, they deserve our praise and our thanks.

Thank you.

Senator COHEN. Thank you very much, Mr. Hald.

Mr. Smith?

TESTIMONY OF STEPHEN M. SMITH,[1] ANDERSEN CONSULTING, WASHINGTON, DC.

Mr. SMITH. Mr. Chairman, good morning to you, sir. Like those who have come before me this morning, I would like to thank you for the opportunity to testify today on the implementation of the Information Technology Management Reform Act of 1996 and its potential for revolutionizing the Federal Government's delivery of services.

My name, as you have said, is Stephen Smith, and I am the managing partner of Andersen Consulting's Federal Government Practice, which currently has a broad range of information technology contracts with Federal agencies, including the Department of Defense and many of the civilian Federal agencies. Andersen Consulting is a $5 billion global management technology organization whose mission is to help our clients change to be more successful. Over my 20-year career with Andersen, I worked with a broad range of both private and public sector clients.

Let me begin today by trying to put today's issue in context. The U.S. Government is the single largest purchaser of information technology in the world, spending in excess of $25 billion annually on technology products and services. While that represents approximately 5 percent of the Federal discretionary spending, it represents approximately 1.5 percent of the total Federal budget.

In the private sector, we find that they are investing approximately the same amount of their total budget in this critical component. In spending the Federal Government's scarce resources wisely, we should be able to obtain the same benefits and overall return from the investment in information technology that successful organizations in the private sector receive.

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[1] The prepared statement of Mr. Smith appears on page 121.

ITMRA provides the framework for transforming the Federal Government, the way the Federal Government develops, procures, implements, and manages information technology. We believe that for ITMRA to be successful, it must be implemented by focusing on the following components:

First, we must develop a sound business approach for each IT project.

Second, we must ensure that the procurement practices support the business objectives of the organization.

And, third, we must encourage information technology innovations throughout the Government.

Let me speak to each of those points quickly. First, a sound business approach must be developed for each IT project. Our private sector experience suggests that agency decisionmakers must utilize a thorough business integration methodology that aligns all of an enterprise's critical components, its people, its processes, and its technology, along with its strategy. By harmonizing and integrating these critical components, value that is far greater than the sum of the parts can be delivered to virtually any organization.

Like leading private sector organizations, the Federal Government must leverage technology to the benefit of its end-user community and to its users and customers. That is, we must re-engineer the processes in ways that reduce costs, increase productivity, and improve service. Elimination of duplicative services and the resulting cost savings are an inevitable outcome of such an approach.

Projects focussing on doing the same thing, the same old way, just doing them more quickly, almost always fail to provide sustainable benefits. The goal must be to deliver services to citizens, better, faster, and at the best possible price.

Projects must also focus on achieving the agency's goals. Buying technology for technology's sake is not a winning strategy. Major initiatives must be clearly linked to an agency strategic plan and vision. This means before moving forward with any information technology investment, clear performance measures must be set. Major cost reduction and service improvements must be demonstrated and well understood.

A thorough comprehensive cost benefit analysis must be performed and maintained during the life of the project, and agency leadership, other employees, and vendors must be held accountable for their performance in this critical area.

Under ITMRA, the responsibility for overseeing process re-engineering and the development of a sound business case will rest largely with an agency's CIO.

In the written testimony I have provided, we have discussed several CIO success factors. Above all, the CIO must focus on outcomes and on the cost of delivery.

In the private sector, CIOs have developed standard approaches for solving business problems by developing reusable components. By solving technical and business problems once and then reusing the solution, the development and maintenance savings are dramatic.

Symptoms of organizations that have failed to embrace this approach are multiple redundant solutions to common problems, excessive delivery costs, runaway or failed projects, and poorly deliv-

ered or unmet business goals. This problem is much akin to developing and building 100 unique cars, each with a separate design, separate engine, and separate maintenance requirements. It would be much better, of course, if the product line were based largely on the same design, so that among other things, maintenance experts could move freely from one product to another, building on the common knowledge gained.

Second key area. A second key factor of the successful implementation of ITMRA is that procurement practices must support business objectives.

Within this area, there are several points. First, expedited procurement must be used more often. Second, the procurement process must be shifted away from a process that is focussed on selecting the firm with the lowest cost per hour, without regard to the number of hours required, the quality of the products developed, and a firm commitment to successfully complete the project.

Instead, the focus must be on the value delivered and on a commitment to complete the project successfully to help the agency achieve their desired outcome or result.

The Government's historical practice of utilizing time and material, procurement processes, place most of the risk on the buyer, on the Government itself. The Government has been operating, in effect, as a homeowner who hires a contractor to build a home based on cost per hour and the credentials of the architect and construction workers and who, when the home is unlivable when built, still must pay because the contractor delivered skilled crafts people at the rate promised.

Contrast this method of operation with the private sector. When a project fails in the private sector, the consulting firm will, in many cases, lose that company as a client for years.

In addition, as key management people move to new companies, they take with them their negative experience with that consultant to their new employer.

In the public sector, all too often, firms that have been unsuccessful on one project are quickly hired for new assignments with the same agency because of their ability to understand and win the procurement process, not because of the results they have delivered.

In order to be successful, the Government must be able to focus on the value delivered, not just on the cost.

In addition, the Government buyer, the purchasing professionals, and the vendors must be far more willing than in the past to link accountability and responsibility together as they pursue their own responsibilities in areas of performance.

Finally, within this area, procurement that move towards win-win solutions must be used more frequently. The Government should emphasize partnering with the private sector to provide solution-based outcomes, not mandating massive technical specifications and processes that may or may not fulfill their business objectives.

We wholeheartedly endorse the pilot programs for alternative approaches, agency acquisition, share in savings, and solution-based contracting.

My third overall area. The third success factor for ITMRA is that information technology innovations must be encouraged throughout Government. If fully implemented, ITMRA should be the catalyst for bold, innovative, and entrepreneurial thinking. There is on reason that the Federal Government cannot embrace in its delivery of services the same technologies that the private sector now offers to its customers in ordinary business transactions.

Particularly exciting transformational possibilities that ITMRA offers include the following: privatization and outsourcing, which help control costs, manage risks, achieve financial advantages, and refocus management energies on core competencies; enterprise solutions, which do away with old industrial models, where even within an agency, departments and bureaus operate almost autonomously, duplicating many administrative services, including payroll, human resource administration, and finance.

Contrast this environment with the complex mergers and consolidations that are taking place today in the private sector. In these situations, we see that one of the first priorities is to eliminate these duplicative expenditures.

Both within and across agencies, single solutions can eliminate repetitive activities. These enterprise solutions offer the potential to save 30, 40, or even 50 percent in many cases in administrative costs, savings that can be used for programmatic enhancement or deficit reduction.

Finally, standardization is critical if information technology is to maximize value within an organization. Government agencies must be able to communicate and share data among one another to provide true savings and efficiencies. Comprehensive solutions in the private sector are developed based on common technical architectures, corporate data models, and reusable solutions. ITMRA provides the impetus to tackle this on a Government-wide basis.

In conclusion, Mr. Chairman, the Federal Government has historically procured information technology, as you have said yourself today, based largely on the basis of process, not on results outcomes. The surest sign of ITMRA's ultimate success will be when results and outcomes matter most.

Senator COHEN. Thank you very much, Mr. Smith.

Mr. Cooper?

TESTIMONY OF MILTON E. COOPER,[1] PRESIDENT, COMPUTER SERVICES CORPORATION

Mr. COOPER. Good morning, Mr. Chairman.

Senator COHEN. Good morning.

Mr. COOPER. As the last speaker, sir, I will try to not be too redundant, in that many of my comments do, in fact, support the earlier persons who have testified, and I would also like to just take the opportunity to thank you, the members of the Committee and particularly your staffs, for aggressively seeking industry's input and participation throughout this process, including some of the related legislation that has gone through.

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[1] The prepared statement of Mr. Cooper appears on page 133.

It is very much appreciated, and industry stands ready to continue to support the process as we move through the years of implementation.

I won't re-relate all of the activities that my own company and the industry associations have had, but we have been involved not only with the Congress, but also with the administration through industry associations and also through other activities that have related and helped us reach what I view to be an extremely positive development toward improving the way that the Federal Government acquires and gets results from its information systems.

I think I speak today only for CSC, but I do have the authority and I have the personal experience to know that this legislation has extremely broad support across industry and that you, sir, and those who proceed to implement this after your departure will have continued, very active support as we move forward.

The legislation has many, many excellent ideas. Most of them have been articulated, the creation of the CIO, the encouragement of performance-based contracting, the requiring of assessment of IT systems and business terms, before you proceed, reengineering, et cetera. These are all ideas that have commercial precedent, success, and nonsuccess, by the way, which I think we need to recognize.

What I would like to do in just a very brief time, I hope, is focus on two that promise the greatest opportunity for real measurable improvement in the way we do business together.

With apologies in advance, if I am stretching the intent of the Committee and the staff to favor a subject that I speak often on, that is, partnership, I believe that the provisions of this legislation do, in fact, encourage and will facilitate truer levels of partnership between Government and industry in the fielding of the systems that we do together as they encourage, I believe, a more equally and more measurably responsible set of criteria for delivering results.

As I will speak a little later, we are in this together. My colleagues have spoken to the fact that a "You order, we deliver" kind of a paradigm, if you will, for acquisition doesn't work very well anywhere, and clearly hasn't worked well for us in the Government. This legislation, I think, allows us to get away from that.

In the commercial world, of course, and this has been mentioned numerous times, phenomena commonly known as outsourcing has derived. Here an outside provider performs non-core obligations, if you will, for a client who then is better able to focus on his core obligations, and a very key tenet in these kinds of agreements is your performance—or your compensation, I should say, is a direct result of how you perform.

There are service-level agreements, performance-based measures, call them what you will, established up front, and those service-level agreements ultimately determine the compensation and the value that both parties receive with an added incentive that as those service-level agreements are exceeded, that there are provisions to share in those additional benefits, both on the contractor side and the Government side.

This legislation, again, forgive me if I am stretching the intent, I hope I am not, but I think this legislation encourages innovative

thinking and does, in fact, allow us to bring those kinds of thoughts and ideas forward, and we are already seeing some receptivity of those ideas across the Government, in NASA, the Department of Defense, the Department of Energy, HUD, GSA, these ideas that I believe have sprung from the energy, sir, of this Committee, and the related activities are, in fact, I would report to you, finding a place in the culture that has been discussed here many times today in Federal acquisition.

I would like to just comment now, even more briefly, on a subject that has been covered, I think, very thoroughly, and that is the position of the chief information officer. Hopefully, again, trying not to be redundant, we have seen, very frankly, in the private sector CIOs who have been hugely successful and those in which there have been dismal failures, and I think in the areas where the CIO position has been successful, there have been several key tenets.

The most important, I believe, is that the CIO must have the full support and backing of the most senior leadership of the agency of department. That has been articulated, I think, extremely strongly by all of the previous speakers today.

Clearly, the spirit of this legislation moves away from the idea of information resources management as an administrative function and recognizes that it is, instead, a strategic function, vital to the success of an agency or department, and therefore, the CIO must be a part of that strategic leadership. You must have the ear of the agency head, a seat at the executive table, and the authority envisioned in this legislation.

The successful examples we have seen in the private sector, the agency head, has been personally involved and committed in the selection of the CIO and continuously demonstrates his support and commitment to that position.

Some of the qualifications, again, clearly articulated earlier, this person doesn't need to be a technologist for a technologist's sake, and that generally ranks fifth or sixth on the rankings of the base criteria for a good CIO.

I personally think, however, that it is still a very important criteria; that at least the utility of information technology to mission success is important and must be.

Clearly, the attributes of strategic thinking, the attributes of highly focussed management, and the attributes of at least a knowledge of commercial best practices, I believe, is important. I will stop short of saying that this person must have specific private sector experience, although that would be a benefit, but where there is not that private sector experience, there has to be a very clear commitment to an active dialogue with the private sector to bring an understanding of those best practices.

I think the power of this legislation lies in its ability to focus both industry and Government on the subject at hand. Clearly, we are both vitally interested in the success of information systems. Our future depends on the future of successful fielding of systems for the Government. So there has been a term, a win-win situation. I think it is win-win-win, its contractor, its agency or department, and most importantly, the final win, the citizens of our nation for the benefits that these systems promise.

Thank you very much, sir.

Senator COHEN. Thank you very much, Mr. Cooper.

Mr. Hald, let me welcome you to Washington.

Mr. HALD. Thank you.

Senator COHEN. Mr. Smith obviously came to Washington many years ago, and the image of Jimmy Stewart throwing all those papers up on the Senate floor, perhaps that represents the exacerbation Mr. Hald had for dealing with and doing business with the government. Until today, that frustration probably accounted for Mr. Hald's absence from Washington. So we welcome you here.

What in your judgment is the biggest obstacles to making ITMRA work?

Mr. COOPER. I will start, if I may.

Senator COHEN. Sure.

Mr. COOPER. Again, much of this panel may sound redundant, and it probably is.

Senator COHEN. You heard Mr. Paige talk before?

Mr. COOPER. I have heard General Paige before, and I happen to agree that the culture, I believe, is the most important challenge. We are not without issues here. Obviously, I have tended to focus on the positive. There are issues for success.

I think that at the top levels—and you asked the question, sir, earlier why isn't this painfully obvious to everybody, and I was going to say that in my office, I make a series of very brilliant decisions that get less and less brilliant, I find, as they filter down through the organization, primarily because there is less understanding three or four levels down as to why that is the right decision for the organization.

Senator COHEN. It is just the opposite in my office. They are all brilliant down below.

Mr. COOPER. Well, I failed to mention, sir, all those started down below, and I took credit for them eventually, but I think we do have to find a way to articulate the understanding of why this is the right thing to do as you move down through the elements of the organizations, if you will. I think the cultural challenge is largest, from my personal viewpoint.

Mr. SMITH. Sir, if we can agree on culture and attitude of the people as being a very critical element, I think there are one or two other points I would add.

The first is discipline. I think in order to be successful in this area, any organization, whether they are a private or a public sector organization, must have the discipline to focus on what needs to be done, how it needs to be done, and then to do it the right way.

Simple example. Pulling together a cost-benefit analysis or a business case, we heard testimony earlier this morning on what the components should be and can it be done objective with a moving train and whatnot. Those are difficult issues, but nonetheless, we have to have the discipline to try. We have to learn. We have to update the analysis that is put together. Then, when we are done, when we deliver whatever the change is, I think we have to have the discipline to go back, look at it, and grade ourselves and say how did we do, and if we didn't do all that well, I think we have to have the intestinal fortitude to say what lessons did we learn. If we did a good job, I think we have the same thing, only we feel a little bit better and pat ourselves on the back.

Senator COHEN. One of the serious problems in dealing with Government, of course, is institutional continuity. How do you maintain the same kind of discipline across the board when you have such turbulence in leadership positions in the executive branch? We have a much more rapid turnover in the executive branch of people moving in, then moving back out into the private sector so you lose that sort of continuity. It is going to be hard to maintain that discipline if you have a lot of turbulence within the leadership of the executive branch unless you really do fundamentally change the culture, so that the people coming in are stepping into a system which is going to adapt to the new legislative intent.

Mr. Hald?

Mr. HALD. Three things. Number one, as echoed by the previous panelists, is the learning process, the inexperience, the rate at which people can learn the new change and accept the changes because a lot of people still resist them on both sides, not just on the Government side, and it has to be down at the local level.

Usually, the challenge is not up high. It is at the local level where the rubber meets the road of implementation. So are the channel side or the commercial side, helping them to understand what they are dealing with. The tendency is to view the Government as being big and monolithic. It is not. It is actually going to be a lot of very large, localized buying organizations that can relate like they do to medium-sized businesses in many ways, and then having them fully understand what the simplified processes and procedures are because they are not the same, exactly the same as the commercial. They need to understand what the differences are.

Second will be transition. There is going to be a transition process here of going from the current system to the new model, which will be fully defined when we get there, but there is going to be a transition.

Typically there, it is attention to detail, identifying quickly what is not working and correct it quickly. That is very important. Otherwise, people who engage in the system become frustrated and drop out on both sides, and they try to revert back to the old ways.

Third, probably important, but less important than the first two, is effective and reliable automated systems that support this process and are consistent with its objectives.

There is an issue now with the current fact that being sufficiently accessible and having the capacity to work right, those are all growth pains, but they need to be worked out. Otherwise, you will not be able to, in effect, manage the process without good automated support.

Senator COHEN. Mr. Smith, you were going to comment?

Mr. SMITH. Sir, regarding the point you made about change, you are absolutely, obviously, right, sir, about fundamental change in organization and leadership positions in Government, but my view of Government is that Government operates really at two levels.

First of all, the leaders who are elected and change on a periodic basis really set policy and overall direction for Government. However, there is still a very important component of Government that I will call the engine of Government, deciding how we implement those policies, how we implement those procedures, and how we do the day-to-day business of running the Government. That is where

I would go back to my point about discipline and make sure that in that engine of Government we have the discipline because that will continue to go in the same direction, and policies and the direction of the Government in terms of what one administration focuses on versus another will certainly change, but the Government must still operate and do certain fundamental processes, irrespective of the direction that one administration or one group of people takes versus another.

Senator COHEN. Have you noticed a change in the attitude of the agencies since the passage of the legislation? Is there something you have detected, Mr. Hald?

You decided to come to Washington after the passage of the legislation, but it hasn't really been fully implemented yet. Is there something going on that you have detected or your clients and customers have detected in terms of dealing with the Federal Government?

Mr. HALD. I can't speak yet of local experience, but working with the GSA over the last year and a half, much more open to experimentation, to looking at ways of conducting business that is more similar to the commercial marketplace, much more open to talking to our industry, looking for what are the standard ways that you do business, in fact, very eager to get that information.

That has also been true on the administration side in terms of seeking input from the commercial sector. So I think that is new. That hasn't happened before, where they have actually come to us and come to our association activities and say we need some assistance, how can you help us.

Mr. COOPER. I would just comment, I mentioned my company alone, and this is echoed across many other companies doing business with the Government, are seeing clients, and I mentioned several of them before, who are aggressively embracing the concepts of this legislation, and I think they view this as a license, at a minimum, an obligation perhaps to seek better ways to do business.

Just for example, today—and this is one of several industry visits—representatives from several of the DISA DOD mega centers are visiting our commercial outsourcing center in Norwich, Connecticut, and that is very typical of what we are seeing, a very active outreach in the public sector to see if there are better ways to do business and an acceptance of that.

Senator COHEN. We know there is a great irony that the initiative for this legislation which seeks to design a procurement or acquisition system to produce more efficiency should come from the U.S. Senate, which cannot cite as its hallmark efficiency as being its primary goal. In fact, it is just the opposite. The Senate is designed to be slow, deliberative and cumbersome in order to slow things down, legislatively at least.

Although this initiative came from the Senate, I also want to take this occasion to say that as brilliant an idea as it may have been, it did not spring from Athena's head or that of my own, but rather through some very capable young people who are sitting behind me. Without them ITMRA would not have become law standing on its own.

One of the many ironies, again, involved in all of this is that these folks behind me have been pushing me for the past 3 years

because I am spread so thinly by serving on the Armed Services Committee, the Intelligence Committee and the Aging Committee. There has been constant pressure from the people sitting behind me who have said we have got to focus on this. It still wouldn't have become law even at their insistence but for the way in which the Senate works.

Last year, had this been standing as legislation on its own, it never would have passed. There were people who were geared up to defeat it because the status quo was appealing to them. There were those who felt that we were moving too fast, too far. We had a number of major corporations in this country who liked doing business with the government precisely as it was being done and didn't want any change. Lo and behold, the marvelous way in which the Senate works, we were able to get this attached to the DOD Authorization Bill, and only by virtue of engrafting this onto the Department of Defense Authorization Bill did it become law.

So the Senate works in very strange ways. As Bismarck said, you don't really want to watch our laws being made too closely because laws and sausages bear some resemblance to each other in the way they are put together, but in this particular case, it worked out to the benefit of the country at large. So I wanted to take this occasion to thank, once again, Kim Corthell who has been the staff director of the Oversight Committee, Paul Brubaker who many of you have worked very closely with, Bill Greenwalt and also Shannon Stuart, a new addition to the staff on this particular matter.

They are the ones who basically kept my feet to the fire on this one and did not allow me to get too distracted on all of the other things that one has to do while serving in the Senate. So while I may get the credit, it really should not be called the Information Technology Management Reform Act, but the Staff Act in this particular case. They were instrumental in working together with industry, the agencies, and the administration. So I want to pay them as much respect as I can in my final moments in dealing with this legislation. They really were the guiding force behind this, and although I get the credit they are the ones who deserve much of it. So I want to say that publicly and then conclude by thanking all of you.

If there is one thing that all of you here today can do, it is to make sure that you maintain your oversight responsibilities, so that if you see that the legislation is either going offtrack, being derailed, nullified, stultified or blunted in some way, that you remind those who follow me in the chairmanship. Senator Levin, believe me, will be dogged in his perseverance in pursuing this legislation, but whatever position he may occupy in the future, there will be other members here who will have to have a very high-level interest.

That can be maintained largely through your response. If you call our attention to something that is not working, then we respond to that. While those who follow will continue to search you out, I would urge you to take the initiative and call us on things that you see are going wrong. There is a much healthier relationship, balance and partnership between the Government and the private sector today than ever before, and that ought to continue.

Thank you very much.

Mr. COOPER. Mr. Chairman, may I just make one final comment?

Senator COHEN. Sure.

Mr. COOPER. We will, indeed, remain diligent. I would just like to comment that we will miss your leadership. I will also miss one of our very best reasons to visit your beautiful state occasionally, Kennebunkport, et cetera, but we will find other reasons to do that, I am sure, sir. Thank you.

Senator COHEN. You are always welcome to come back to Maine for any reason.

[Whereupon, at 12:16 p.m., the Subcommittee adjourned.]

APPENDIX

GAO

Testimony

INFORMATION MANAGEMENT REFORM

Effective Implementation Is Essential for Improving Federal Performance

Statement of Christopher Hoenig
Director, Information Resources Management
Policies and Issues
Accounting and Information Management Division

Mr. Chairman and Members of the Subcommittee:

It is a pleasure to be here today to discuss issues surrounding the implementation of the Information Technology Management Reform Act (ITMRA) of 1996. ITMRA requires significant changes to the way government agencies manage and acquire information technology (IT). Its emphasis on senior executive involvement in information management decisions, the establishment of Chief Information Officers (CIO) as members of executive management teams, investment control and capital planning, process reengineering, and the use of performance measures to ensure accountability for IT spending results are much needed management reforms. In addition, ITMRA makes important changes designed to streamline the IT acquisition process, such as eliminating the General Services Administration's (GSA) central acquisition authority, placing it directly with federal agencies and encouraging the adoption of more manageable IT acquisition projects. In short, ITMRA empowers agencies with ways to spend money wiser, not just faster.

We have recommended many of these changes to the Congress and to federal agencies we have audited over the last several years. Grounded in practices of leading private and public sector organizations, ITMRA offers tremendous potential for significantly improving how technology is used to support more informed management decisions, increase the efficiency and effectiveness of government operations, and–ultimately–provide more effective delivery of government services to the public.

Change, however, is easy to discuss but much more difficult to accomplish. Attention has now shifted from "what" to do about pervasive problems to the "how" associated with implementing the requirements of the law when it becomes effective in a few short weeks. And while a great deal of activity is underway to prepare for implementation, much is not yet complete. It is critical that the momentum established thus far continue, and that steps to ensure successful implementation be completed.

Today, I would like to:

- provide a brief snapshot of where IT management in the federal government stands today compared with the ITMRA standards that will be used to determine success in the future;

- share some lessons learned from prior legislative reform efforts, such as the Chief Financial Officers (CFO) Act and the Government Performance and Results Act (GPRA), that can be useful in ITMRA's implementation;

- cite the progress made in the implementation activities underway within the executive branch while highlighting several critical challenges that remain; and finally

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- offer ideas about what the Congress can do to move ITMRA forward in a constructive manner and suggest evidence that may indicate early success or failure.

Federal IT Management Today and
Tomorrow: Defining Success

When one steps back and collectively evaluates how the government has traditionally managed and acquired information technology, some conclusions are painfully obvious:

- *On the whole, the federal government's track record in delivering high value information technology solutions at acceptable cost is not a good one.* Put simply, the government continues to expend money on systems projects that far exceed their expected costs and yield questionable benefits to mission improvements. Familiar examples, such as the Federal Aviation Administration's Air Traffic Control modernization and the Internal Revenue Service's Tax Systems Modernization projects serve as stark reminders of situations where literally billions of dollars have been spent without clear results. Moreover, agencies have failed to take full advantage of IT by failing to first critically examine and then reengineer existing business and program delivery processes.

- *Federal agencies lack adequate processes and reliable data to manage investments in information technology.* Without these key components, agencies cannot adequately select and control their technology investments. As GAO's financial and information management audits have demonstrated over the last decade, it is sometimes impossible to track precisely what agency IT dollars have actually been spent for or even how much has been spent. Even more problematic, rarely do agencies collect information on actual benefits to the organization accruing from their investments. More often than not, results are presented as descriptions of outputs and activities rather than changes in performance or program outcomes.

How should the Congress expect this scenario to change once agencies take steps to implement ITMRA? In 5 to 7 years, Congress should have a much clearer, confident understanding of the benefits to agencies' performance that are attributable to IT expenditures. On a governmentwide basis, there should be higher overall success rates for IT projects completed within reasonable time frames, at acceptable costs, with positive net rates of return on investment. Modular, well-defined IT projects with short-term deliverables should be the rule rather than the exception. And institutionalized, up-to-date management processes should be producing consistent high-value investment decisions and results.

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**ITMRA Must Be Integrated With
Broad Management Reforms**

Mr Chairman, ITMRA also has to reinforce and be reinforced by other important management reform legislation. Just as technology is most effective when it supports defined business needs and objectives, ITMRA will be more powerful if it can be integrated with the objectives of broader governmentwide management reforms.

For example, changes made by the Federal Acquisition Reform Act (FARA) and the Federal Acquisition Streamlining Act (FASA) are focused on removing barriers to agencies obtaining products and services from outside sources in a timely, efficient manner. This is crucial in the technology arena where significant changes occur very rapidly. ITMRA builds in essential investment and performance ingredients that empower agencies to make wiser, not just faster, acquisitions of IT products and services.

The Paperwork Reduction Act (PRA) emphasizes the need for an overall information resources management strategic planning framework, with IT decisions linked directly to mission needs and priorities. And, the act also focuses on reducing unnecessary information requirements on industry and citizens. ITMRA can work in concert with PRA by making sure that agencies understand what information is needed, the purpose it is being used for, and ensure it is collected once and shared many times.

The CFO Act requires sound financial management practices and systems to be in place essential for tracking program costs and expenditures. ITMRA based-approaches to managing information systems should have a direct, positive impact on the creation of financial systems to support the higher levels of accountability envisioned by the act.

GPRA focuses attention on defining mission goals and objectives, measuring and evaluating performance, and reporting on results. Budgets based on performance information provided under GPRA should include clear treatment of IT capital expenditures and its impact on agency operations. Similarly, ITMRA effectively supports GPRA by requiring that performance measures be used to indicate how technology effectively supports mission goals, objectives, and outcomes.

**Useful Lessons Exist for the
Challenges That Lie Ahead**

Past experiences with other governmentwide reforms--such as the CFO Act, the National Performance Review (NPR), the Paperwork Reduction Act, and GPRA--indicate that implementation requires a significant investment of time at senior levels. Our own experiences in assisting agencies with self-assessments of their strategic information management practices have illustrated the many barriers that must be overcome. To date, our evaluation approach--which involves all levels and types of management--has been used in at least ten agencies. In every case, it has taken considerable management

time, talent, and resources to analyze organizational management strengths and weaknesses and then put corrective action plans in place.

From the past, we know that the early days following the passage of reform legislation are telling. The level of governmentwide interest, discussion, and senior management involvement in planning for and directing change all indicate whether a "wait and see" approach versus a "get ready to meet the test" approach is being taken. During this period, consistent oversight leadership, coordination, and clear guidance from the Office of Management and Budget (OMB) is essential to getting agency implementation off to a constructive start. Without common direction and constancy of purpose from OMB, GAO, and the Inspectors General, agency executives are left reacting and responding to advice and directives that may be at cross purposes.

It is also important that implementation actions focus on not only the *means* (i.e., policies, practices, and process) but also *end results* that are expected from the management reforms. For ITMRA to be successful, improved management processes and practices that focus on capital investment and planning, reengineering, and performance measurement are essential. But these are only the means to achieve the legislation's ultimate goal–implementing high-value technology projects at acceptable costs within reasonable timeframes that are contributing to tangible, observable improvements in mission performance. Continuous oversight from the Congress that focuses on these issues and strong support from the Administration are an essential incentives for keeping agency management accountable and focused on changes necessary to ensure more successful outcomes. The pilot efforts being conducted under GPRA also illustrate that outcome and performance-based decision-making will not be an easy, quick transition for federal agencies.[1] Performance reports provided to the Congress under both GPRA and now ITMRA should become one of Congress's major mechanisms for evaluating and ensuring agency accountability.[2]

ITMRA Implementation Activity Is Underway

A flurry of activity is underway across the government to implement new management processes required by ITMRA. To its credit, OMB–under the direction of the Deputy Director for Management–has taken a leadership role in organizing and focusing interagency discussions on changes needed to existing policy and executive guidance. Let me briefly summarize some of the major activities now underway.

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[1] Executive Guide: Effectively Implementing the Government Performance and Results Act (GAO/GGD-96-118, June 1996).

[2] Managing For Results: Achieving GPRA's Objectives Requires Strong Congressional Role (GAO/T-GGD-96-79, March 6, 1996).

Changes in Executive Branch Policy
Directives and Guidance

Several policy directives and guidance are being created or revised by OMB to reflect changes required by ITMRA. These include a draft Executive Order on Federal Information Technology which is currently with the President for review and signature. This order will officially create

- a governmentwide Chief Information Officers Council, composed of agency CIOs and Deputy CIOs and chaired by OMB's Deputy Director for Management, to provide recommendations to OMB on governmentwide IT policies, procedures, and standards;

- the Government Information Technology Services Board, staffed by agency personnel, to oversee the continued implementation of the NPR IT recommendations and to identify and promote the development of innovative technologies, standards, and practices; and

- the Information Technology Resources Board, staffed by agency personnel and used to review, at OMB's or an agency's request, an information systems development or acquisition project and provide recommendations as appropriate.

In addition, revisions are being made to two important OMB management and budget circulars. Circular A-130, Management of Federal Information Resources, is being changed to include the capital planning and portfolio management requirements of ITMRA. Circular A-11, Preparation and Submission of Budget Estimates, is expected to provide additional information on capital planning, including a new supplement on planning, budgeting, and acquiring fixed assets.

Further, an estimated 90 percent of GSA's Federal Information Resources Management Regulation is expected to be eliminated in response to ITMRA. The remaining segments are expected to be issued as parts of the Federal Acquisition Regulation, the Federal Property Management Regulation, or OMB guidance.

The OMB IT Investment Guide, issued last November[3], establishes key elements of the investment process for agencies to follow in selecting, controlling, and evaluating their IT investments. This process will be used in the fiscal year 1998 budget submission cycle. The Investment Guide has been circulated among agency heads, CFOs, and senior IRM officials. In addition, OMB has made copies available to each of its five Resource

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[3]Evaluating Information Technology Investments–A Practical Guide, Version 1.0, Executive Office of the President, Office of Management and Budget, November 1995.

Management Offices responsible for reviewing agency management, budget, and policy issues.

Interagency Outreach and Coordination

OMB has also organized an interagency CIO Working Group—comprised of the existing senior IRM officials from the major agencies and departments—to assist in developing the policies, guidance, and information needed to effectively implement ITMRA. This working group has been very active, meeting once a month since January. The working group has created several interagency subcommittees that have been working to provide suggestions to OMB on changes needed in governmentwide policies and executive guidance to effectively implement ITMRA. Among these subcommittees are:

- the CIO Subcommittee, which developed a paper on the appointment, placement alternatives, and roles and responsibilities of an agency's CIO;

- the CIO Charter Workgroup, which developed the proposed charter for the CIO Council; and

- the Capital Planning and Investment Subcommittee, which has discussed potential approaches to IT capital planning processes and is working on a proposal for pilot testing new processes at several agencies.

Administration Is Taking a Proactive, Adaptable Approach to Implementation

Because many of these activities are still underway, it is impossible to make conclusions about them at this time. However, taken as a whole, they send several positive signals. In each, OMB has played a proactive leadership role while remaining flexible enough to adapt to individual agency situations and needs. In general, although the depth and impact are uncertain, the direction of the guidance is consistent with ITMRA.

First, it is clear that the federal IRM/IT community is widely represented and involved in these efforts. Rather than being the recipients of policy changes, agency officials are actively engaged in helping formulate new guidance and standards. For example, the interagency working groups that have been assembled to provide input on the CIO position and capital planning and investment processes have representation from numerous departments and agencies.

Second, initial steps are being taken to emphasize the importance of selecting qualified CIO candidates who are being strategically placed with defined roles and responsibilities within the agencies. OMB has asked that before the major departments and agencies establish and fill these positions they formally submit information on (1) the CIO's background and experience, (2) a description of the organizational placement of the CIO

position, including reporting arrangements to the agency head and organizational resources expected to be under the control of the position, and (3) a description of the CIO's authority and responsibilities. OMB expects to conduct discussions with agencies should it have concerns that the intent of the legislation is not being fulfilled. OMB has also responded formally to selected agencies where objections were raised about the CIO position.

Third, recognizing the governmentwide shortage of highly skilled managerial and technical talent, several mechanisms are being established to help leverage IT skills and resources across agencies. Establishing the Information Technology Resources Board, the CIO Council, and Government Information Technology Service Board all demonstrate a recognition of the need to channel experienced management and technical resources towards significant problem or opportunity areas, particularly large, complex systems development or modernization projects that show early warning signs related to cost, schedule, risk, or performance.

Fourth, a governmentwide implementation focus is being maintained. Especially noteworthy is the broad-based level of support and interaction covering IT issues that transcend specific agency lines. The Government Information Technology Services Working Group (GITS) serves as an excellent example of what can be achieved through interagency cooperation. In implementing many of the IT-related recommendations of the National Performance Review, GITS has effectively promoted electronic sharing of information across agency lines and to citizens.

Fifth, special attention is being paid to core requirements of the legislation–establishing CIOs and improving IT capital planning and investment. These two provisions are directly aimed at strengthening pervasive management weaknesses we find in most federal agencies: (1) getting top executives to determine how major technology projects are intended to improve business goals and objectives, (2) getting program managers to take ownership of IT projects and holding them accountable for the project's success, and (3) institutionalizing repeatable processes aimed at scrutinizing project costs and risks against delivered benefits.

OMB, in considering revisions to existing management and budget circulars, has recognized the need to better integrate and consolidate existing agency guidance in order to improve its own oversight and alleviate imposing unnecessary reporting burdens on the agencies. The Deputy Director for Management convened a special working group to revise OMB's current management bulletin on agency budgeting and planning for fixed capital assets, which includes major information systems acquisitions. The revised guidance is being made a supplement to OMB's Circular A-11, the primary budget preparation guidance for federal agencies. In addition, OMB has drafted changes to Circular A-130 to be compatible with ITMRA, including the requirement that agencies develop consistent decision criteria that allow IT investments to be prioritized based on costs, benefits, and risks.

Several Challenges Must Be Addressed to
Improve Chances for Successful Implementation

ITMRA implementation activities, taken as a whole, indicate a willingness among agency officials and OMB to meet their responsibilities and expectations under the act. Nevertheless, we see critical challenges in five specific areas. Without addressing these challenges and additional effort to solidify current initiatives, implementation will be at risk early on. Let me briefly discuss each.

Get Top Agency Executives, Not Just
IRM Officials, Involved

Our observations of the implementation activities leads us to conclude that much of the involvement within federal agencies is heavily tilted towards IT and IRM officials and does not include top senior officials. Most of the interagency working groups come exclusively from IRM and strategic planning offices. Yet, our research of leading public and private organizations clearly demonstrates that strong leadership, commitment, and involvement in capital planning, investment control, and performance management must come from the executives who will actually use the information from these processes to make decisions. Although there has been communication with the President's Management Council about ITMRA requirements, it is unclear how seriously this reform is being taken by senior agency management.

Strong, Consistent Direction Is Needed
on CIO Appointments

Many of the agencies' actions to date in contemplating CIO appointments do not reflect a full understanding of either the letter or the intent of the legislation. The CIO position under ITMRA seeks a strong, independent, experienced, executive-level individual who can focus senior management attention on critical information management issues and decisions. Yet, some individuals being considered lack clear track records and adequate business or technical experience. In other cases, the placement of the CIO is at a lower management level than what the legislation intended. According to information from OMB, 13 of the 27 largest departments and agencies have named CIOs. It is our understanding that three of these agencies have been advised by OMB that their CIO positions meet the requirements of the law. Our own review of the information being submitted to OMB by agencies indicates that the breadth of experience varies widely among the individuals being considered for the position. Signals coming from the Administration need to be strong, clear, and more consistent on the importance, placement, and skills associated with the position.

In addition, 4 agencies have provided information to OMB indicating a desire to integrate the functions of the Chief Financial Officer with the Chief Information Officer. Mr. Chairman, as you have noted in your public statements, this was not the intention of the

legislation. Moreover, a task force report recently submitted to OMB from the Industry Advisory Council argues strongly against combining the two positions. The CIO was created to give an executive-level focus and accountability for information technology issues and ensure greater accountability for delivering effective technology systems and services. In light of the existing problems in most agencies and the significant duties and responsibilities under each act, agencies would be best served by keeping the two positions separate. The problems associated with financial and information management in most federal agencies are very significant and require attention from separate individuals with the appropriate talent, skills, and experience in each area.

Attention Needed to Building New IT Skills, Not Just Leveraging Existing Ones

Critical, sustained, high-level attention is needed on new skills in government that are essential to proposing, designing, building, and overseeing complex information systems. Recruitment efforts and strategies need to be established and retention of existing skilled staff reexamined. The magnitude of the challenges facing federal agencies in the IT area demand more talent than currently exists. Although one subcommittee of the interagency CIO Working Group has been created to examine this issue, it has not yet been given the attention it deserves.

Besides Governmentwide Efforts, OMB and Agencies Must Keep Focused on Internal Implementation Steps

One area of particular concern is how the legislation is to be implemented at the department level versus their major subcomponents, namely agencies and bureaus. To date, neither the federal agencies or OMB have determined how newly required investment control processes, IT performance management, or IT strategic planning will be differentiated by organizational tiers within government entities.

Additionally, it remains unclear how OMB's own internal ITMRA implementation responsibilities will be strengthened. Although we have not yet fully evaluated OMB's efforts, there appears to be insufficient attention to preparation for the oversight and evaluation of agencies' IT capital planning and investment processes. OMB has yet to explicitly define as part of its own ITMRA implementation strategy how it expects to fulfill its responsibilities for (1) evaluating agency IT results, (2) ensuring capital planning and investment control processes are in place, (3) using accurate and reliable cost, benefit and risk data for IT investment decision-making, and (4) linking the quality and completeness of agency IT portfolio analyses to actual budget recommendations to the President.

With the phasing out of GSA's Time Out program–designed to get problem-plagued systems acquisition projects back on track and force improvements in agency IT management processes–the weight placed on OMB's oversight responsibility has further

increased. Under the OMB 2000 reorganization, program examiners in OMB's Resource Management Offices will have primary responsibility for evaluating agency IT budget proposals and evaluating the implementation of governmentwide IRM policies. It remains unclear how OMB expects to train these examiners to evaluate the IT portfolios of the agencies over which they have oversight responsibility.

Mr. Chairman, we will soon be issuing a report to you and Chairman Clinger of the House Committee on Government Reform and Oversight that specifically focuses on IT investment decision-making in five case study agencies. Our findings highlight important shortcomings in these agencies' capabilities to meet the expectations of ITMRA's investment control provisions. Based on this work, we will outline specific recommendations to OMB for ways it can improve its oversight role in this area.

Continue to Emphasize an Integrated, Not Selective Management Approach

ITMRA embraces an entire set of comprehensive management reforms to IT decision-making. These parallel the set of strategic information management best practices we recommended in our May 1994 report, <u>Executive Guide: Improving Mission Performance Through Strategic Information Management and Technology–Learning From Leading Organizations</u>. As we have learned from our research of leading private and public organizations, long-term, repeatable improvements in managing IT are most successful when a complete set of information management practices are conducted in concert with each other. While much attention has been focused on the capital planning and the CIO provisions of ITMRA, equally intensive agency attention to other areas (e.g., strategic planning, business process reengineering, performance measurement, and knowledge and skills development) is also essential. Within a short period of time, efforts should begin to marshall agency attention to these key areas.

Moving ITMRA Implementation Forward: Congressional Support and Oversight Is Essential

Mr. Chairman, time is of the essence in order to meet congressional expectations that agencies begin acquiring and managing IT according to the approaches outlined in ITMRA. Agencies should be taking short- and long-term actions to change management processes to comply with the legislative requirements and intent.

In overseeing the implementation of ITMRA, we suggest that Congressional oversight in the short-term focus on assessing critical agency actions in four areas that have direct bearing on the ultimate success of the law in producing real, positive change:

- *Closely monitor the caliber and organizational placement of CIO candidates for departments and agencies.* Past experience with the initial selection of CFOs in the

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federal government indicates that the rush to fill the position may take precedence over careful deliberation over choosing the right person. The caliber of the individuals placed in these slots can make a real difference in the likelihood of lasting management changes. This has been demonstrated through the success of the CFO Act. After some initial problems, well-qualified individuals were selected for these positions. Early signs of success will be the establishment of a pool of high-caliber CIOs who can effectively support agency heads on IT issues at appropriations and oversight hearings. However, an early warning sign of failure will be if individuals are elevated or reassigned within their organizations with little regard to qualifications, experience, or skill.

- *Focus on the evaluation of results.* Congress must continually ask agency heads for hard numbers and facts on what was spent on information technology and what the agency got in return for the investment. These evaluations, wherever possible, must focus on information technology's contribution to measurable improvements in mission performance. Improvements in productivity, quality and speed of service delivery, customer satisfaction, and cost savings are common areas where technology's impact can be most immediate. Early signs of success will be examples of measurable impact or where high-risk IT projects with questionable results are stopped or delayed as a result of IT investment control processes. Early signs of failure will be examples where high-risk, low-return projects continue to be funded despite claims of management process changes.

- *Monitor how well agencies are institutionalizing processes and regularly validating cost, return, and risk data used to support IT investment decisions.* Informed management decisions can only occur if accurate, reliable, and up-to-date information is included in the decision-making process. Project cost data must be tracked and easily accessible. Benefits must be defined and measured in outcome-oriented terms. And risks must be quantified and mitigated to better ensure project success. Early signs of success will be agency examples where IT contributions to productivity gains, cost reductions, cycle-time reductions, and increases in service delivery quality and satisfaction are quantitatively documented and independently reported.

- *Get the right people asking and answering the right questions.* Throughout the budget, appropriations, and oversight processes, top agency executives, OMB program examiners, and members of Congress must consistently ask what was spent, what was achieved, and was it worth it. Agency heads must be able to clearly answer these questions for their IT capital expenditures.

Mr. Chairman, the success or failure of this critical legislative reform will have far reaching impact. Rising public expectations for improved service and the need to improve the efficiency of federal operations to support needed budget reductions all depend on wise investments in modern information technology. We look forward to working with this committee to make ITMRA a success and appreciate your leadership in

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spearheading this effort. That concludes my statement Mr. Chairman. I would be happy to answer any questions you or other members of the Subcommittee may have at this time.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

DEPUTY DIRECTOR
FOR MANAGEMENT

TESTIMONY OF JOHN KOSKINEN
DEPUTY DIRECTOR FOR MANAGEMENT
OFFICE OF MANAGEMENT AND BUDGET
BEFORE THE
SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT MANAGEMENT
SENATE COMMITTEE ON GOVERNMENTAL AFFAIRS

JULY 17, 1996

Good morning, Mr. Chairman. I am very pleased to be here to give the Committee a status report on the Administration's implementation of the Information Technology Management Reform Act (ITMRA) of 1996. We are encouraged that so many people are interested in maximizing the contributions information technology (IT) can make to improve program performance.

The Federal government continues to have a mixed record in integrating IT into its operations. Although it spent more than $25 billion in fiscal year 1995 on information technology, the Federal government has lacked the consistently effective leadership and organization required to assure that it makes the most of these resources. Over the years, this Committee and others have expressed concern with IT projects that substantially overran their budgets and underperformed their projections.

I think it's important to realize that the Government is not alone in its difficulties with information technology. Last year, more than half of the software development projects initiated by large companies will cost twice as much as originally estimated, according to a recent study by The Standish Group International Inc. Until it set up a project management office, American Express Financial Advisors was experiencing budget overruns of as high as 500 percent on IT projects.[1] Rapidly changing technology makes IT projects inherently difficult to manage.

Recent History

During my confirmation hearing two years ago before the Governmental Affairs Committee, Senator Glenn asked what could be done to improve the government's acquisition of information technology. I replied that my experience in the private sector was that difficulties arose when you did not have a clear idea of what you needed a new system for and how you expected it to perform. During that year's budget season, the large number of complex, mission-

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[1] *"Tough Love," Reins in IS Projects*, Computerworld, by Julia King, June 19, 1995, page 1.

critical and troubled IT projects included in agency budget submissions made it clear that we had a systemic problem. I therefore convened a meeting of those within OMB working on this problem including the Office of Information and Regulatory Affairs, the Office of Federal Procurement Policy, the Office of Federal Financial Management and the program examiners for a number of troubled systems.

While our problems are significant, I was pleased to learn how much was going on across the government to improve the situation. The National Performance Review had considered information technology so important that a cross-cutting team, Government Information Technology Services (GITS), was created just to concentrate on this area.

Recent revisions to OMB Circular A-130, *Management of Federal Information Resources*, recognize the strategic importance of IT and require agencies to establish structured evaluation criteria and decision-making processes to help them justify investments in IT. These revisions also include new requirements to tie investments in IT to the agency's mission goals, to use programmatic performance measures in evaluation processes, and to link management oversight processes for major information systems to agency budget processes.

At the General Services Administration (GSA), Roger Johnson, then Administrator, had reached out to IT experts throughout the government, by forming the Information Technology Acquisition Review Board (ITARB) to bring their experience to bear on troubled systems. The General Accounting Office (GAO) had synthesized best practices for managing IT in the very useful Executive Guide, *Improving Mission Performance Through Strategic Information Management and Technology: Learning from Leading Organizations*. The Office of Information and Regulatory Affairs had built on the GAO guide to create an "Examiner's Handbook" designed to educate budget examiners, and through them the agencies, about the questions that should be asked and answered about IT projects throughout the budgetary cycle. Shortly after our OMB meetings began two years ago, you, Mr. Chairman, released an important report, Computer Chaos, which proposed solutions in this area.

Building upon all of these efforts, at the request of the Vice President, Roger Johnson and I created an interagency working group on information technology that included experts from across the Federal government. Leaders of GITS and ITARB, experts from the National Performance Review and representatives of the Departments of Defense, Treasury, and Social Security all joined us to examine IT programs covered by the Brooks Act (40 U.S.C. 759) and to identify changes needed to improve the Federal Government's planning for, and acquisition and management of IT.

On May 17, 1995, the Vice President wrote to you with the results of our work. You then introduced with Senator Levin, the Information Technology Management Reform Act of 1995 and proceeded to work with your colleagues and the Administration on a statute that streamlines and improves the process that the government uses to manage its vast portfolio of IT investments.

Common Findings

What is particularly reassuring is that the perspectives of the executive and legislative branches are so consistent -- beginning with the idea that IT is critical to improving service delivery and is a powerful tool for reinvention.

Although the government may experience similar needs and technological difficulties as the private sector, we have created our own unique institutional barriers to improvement. In the past, the oversight community -- including OMB, GSA, Congressional committees, the Inspectors General, and the GAO -- has often over-emphasized specific details, such as the acquisition cost of individual IT projects, rather than assessing their effect on program delivery.

Today we understand that we often begin our analysis and oversight of IT projects too late in the process, after the decision has been made to acquire an IT system. The place to start is with an analysis of the operating processes to be improved with information technology. Before we consider which IT systems to acquire, we need to focus on reengineering how the work is being done, even asking whether the work needs to be done at all or can be done better by someone else. Only after completing these analyses should IT acquisition strategies come into play. In addition, the IT oversight process needs to promote sound capital planning in agencies. We need to know why we are acquiring a particular system, what benefits we will derive for the costs expended, and how that cost/benefit analysis compares with similar analyses for other IT systems. Some have called this portfolio analysis and management and we need to encourage more of it.

Similarly, instead of depending on each agency to maintain a core of IT experts who can deal with any system no matter how large or complex, we all seem to agree that the government would do better by leveraging the best experience and talent across agency lines. Too often, individual agencies have been overwhelmed by large, complex systems projects which are beyond their own capacities to manage, or have pursued isolated development efforts to support functions that could have cross-agency or governmentwide economies. Furthermore, since there is a lack of coordination for cross-agency initiatives, innovative solutions to a problem are not easily shared among agencies with similar problems.

Our implementation efforts should be modeled after the best commercial practices, such as those identified by GAO. Why start from scratch if there are proven models that can be used to our advantage? The system of oversight before passage of ITMRA was complex, prescriptive, slow, and duplicative. With fast-moving technological change, we need better management, not more oversight.

ITMRA

From the OMB perspective, ITMRA incorporates a number of very important and useful insights and ideas. It focuses clear and thoughtful attention on the significance of IT and

provides support for the discussion of how the government's operations in this area need to change. It is critical to realize that promoting agency success in this area depends both on the type of oversight as well as the placement of the oversight.

ITMRA forges links to the budget process. We believe that only the budget process, rooted in the agency's strategic business plan, provides the opportunity to engage the agencies in a dialogue early enough in the life of a project to have an effect on its direction. Agencies are accountable for delivering systems that produce mission-related results and OMB is responsible for holding them accountable.

ITMRA appropriately emphasizes agency responsibilities in this context by establishing a strong voice within each agency to be a champion for intelligent use of IT -- the agency chief information officer (CIO). Under ITMRA the CIO becomes the proponent of the strategic view before investments are made by asking three important questions -- Should the government be performing this function, or can it be privatized? Can another agency perform the function? Has the process to be supported been reengineered?

ITMRA clearly recognizes the usefulness of interagency sharing of expertise by creating interagency fora and otherwise attempting to facilitate sharing of resources across agencies. Such sharing is essential. If these groups fail to provide useful advice, or, if that advice is not taken, the investment control and capital planning process will default to suboptimal investments, missed benefits, and higher costs. The opportunity to create strategic IT directions will be lost.

Another provision that we think will improve the acquisition of information technology gives the General Accounting Office exclusive jurisdiction over IT bid protests, aligning the procedures for IT with those followed for all other products and services.

Finally, an opening has been created to acquire large systems in a more modular fashion and to use more off the shelf components. Experience in the private sector, according to GAO, has demonstrated the importance of this process. Modular procurements can mitigate risk and improve the chances of success. But without substantial progress on this front, large systems will be predisposed to failure.

I would now like to turn the discussion to the steps we are taking to prepare for implementation of ITMRA, which becomes effective August 8th.

A Status Report on Implementation of ITMRA

The foundation of the Act requires agencies to take responsibility for the capital planning and budgeting for IT systems that will support their missions. We need to provide support and resources to the agencies where they can use it, but we should stop subjecting the agencies, as a regular matter, to oversight for IT acquisition outside the normal budget

process. Because our implementation strategy streamlines the oversight process and builds on existing practices, we believe it is realistic and feasible. Our strategy is modeled and builds on commercial best practices and on successful efforts already underway in the agencies, across agencies, and in OMB. Our strategy contains three steps: issuance of an executive order that organizes a series of interagency groups to assist us in implementation of the Act; revisions to OMB Circulars -- primarily A-11 and A-130, to focus on improved capital planning; and provision of additional information and guidance to the agencies on the designation of chief information officers.

The Executive Order on Federal Information Technology

The President's Executive Order, signed this week, establishes three interagency groups to provide information and suggestions to OMB for its use in the review of agency IT budget requests, rather than having such groups exercise direct oversight and control of agency IT acquisitions. The groups are as follows.

• A Chief Information Officer (CIO) Council to serve as the principal forum to improve agency practices on such matters as the design, modernization, and performance of agency information resources. The CIO Council will develop recommendations for overall federal information technology policy, procedures, and standards. It will allow CIOs to share experiences, ideas, and promising practices including work process redesign and the development of performance measures. The Council will also assess and address the hiring, training, classification, and professional development needs of the Federal Government with respect to information resources management.

• The Government Information Technology Services Board (GITSB) will, ensure continued implementation of the IT recommendations of the National Performance Review and identify and promote the development of innovative technology, standards, and practices among agencies, state and local governments and the private sector. Among its other responsibilities the GITSB shall assist in creating opportunities for cross-agency cooperation and intergovernmental approaches in using information resources to support common operational areas and recommend innovative multi-agency information technology projects.

• The Information Technology Resources Board (ITRB) will provide independent assessments at the request of agency heads or OMB to assist in the development, acquisition, and management of selected, major information systems.

The CIO Council, the GITSB, and the ITRB are modeled on commercial best practices and build upon successful interagency efforts. We also will continue our support of Presidential Technology Teams which were established earlier this year by Presidential Memorandum. These teams allow groups of agency IT experts from across the government to

work for six to 18 months with an individual agency to solve a particular IT problem. In addition to the benefit to the agency, the team members gain a broader range of experience than they would normally get in their home agency.

Revision of OMB Circulars

We are also adjusting OMB circulars to help implement the Act. We have developed a revision, known as Part 3, to OMB Circular A-11, *Preparation and Submission of Budget Estimates*, to encourage agencies to engage in a capital planning process for fixed assets, including information technology systems. We are anxious, as part of these revisions, to integrate a series of separate requirements to measure the performance of fixed assets and not require the agencies to respond to several different requests for similar types of information. For example, the Government Performance and Results Act (GPRA) requires agencies to relate the acquisitions of assets to the performance of the agencies' mission. The ITMRA requires that the performance of large IT systems be tracked. The Federal Acquisition Streamlining Act (FASA V) requires agencies to develop performance measures for all procurements and to track them. Circular A-130 discusses the need for planning for information technology as does OMB's Fixed Assets Bulletin.

With the assistance of agency and GAO representatives, the A-11 revision allows us to ask agencies for a single submission of information about the justification for and performance of their proposed major IT systems. We define major systems to be those that require special management attention because of their importance to an agency mission; their high development, operating, or maintenance costs; or their significant role in the administration of agency programs, finances, property, or other resources.

Another goal of our revision to A-11 has been to assure that the information we collect is derived from information that is useful to the agencies. Here again, the participation by agency and GAO representatives has helped us develop a more workable process of data collection.

A longer term project that we have begun is the development of a capital planning guide for all types of fixed asset acquisitions. OMB's Comptroller, Ed DeSeve, will be heading this longer term interagency effort. The capital planning guide will be available for use in the FY 1999 budget process and will focus on the justification for a proposed acquisition in terms of its ability to improve agency performance of its mission(s), the cost of the performance to be obtained, alternatives to the acquisition, and a portfolio investment analysis that compares the impact of this acquisition against investments in other acquisitions or existing projects. We will be building on the very popular joint OMB/GAO guide entitled, *Evaluating IT Investments*.

We will also be revising OMB Circular A-130, *Management Of Federal Information Resources*, and hope to have a draft version out for public comment in the next few weeks.

Additional Information on the Designation of Agency CIOs

On April 4, 1996, OMB sent memorandum 96-20 to the heads of all agencies giving them additional information on designating a CIO and advising them that proposed CIO appointments are to be made after consulting with OMB. As we examine the packages provided to us by the agencies we are looking for the following three things.

- Organizational Placement of the CIO. OMB's memorandum states that the person selected should report to the agency head directly, and not through another official. It may be more efficient in some agencies for the CIO to work on a daily basis with the Chief Operating Officer (Deputy Administrator) of the agency, as long as it is clear that the CIO has direct access to the agency head whenever the CIO deems that appropriate.

- Capital Planning and Performance-based Management of Information Technology. One of the most important responsibilities of the CIO is to promote effective agency operations by encouraging performance-based management. A major responsibility of a CIO is to ensure that an agency has determined, before making an investment in a new information system to support a particular function, whether the function should continue to be performed at all, and, it so, whether the function can be performed better by the private sector or another agency. The CIO should also ensure that, where appropriate, an agency has restructured mission-related processes before making significant IT investments.

- Background and Experience of the CIO. The CIO should have extensive knowledge of `concepts, trends, and technical issues such as information resources management, systems acquisition, and software development. The CIO must have the necessary knowledge of information systems capabilities to advise the agency head and senior program managers on the potential of information technology to create new program objectives and advise them on the associated risks and techniques for minimizing those risks.

In addition to OMB's memo, several different organizations, including some in the private sector, have provided OMB with information on the position, duties, and qualifications of a CIO. To assist the agencies, a summary of three recent papers on this subject has been shared with the President's Management Council, composed of the Chief Operating Officers of the agencies. I would be happy to submit that summary for the record, if you would like.

Next Steps

Mr. Chairman, this Committee has a long history of bipartisan cooperation in its efforts to improve the management of the Federal Government. Passage of the ITMRA will significantly increase the effectiveness of information technology in agency operations and we look forward to working with you and the other members of Congress to assist us in making progress in this important area. I would be pleased to answer any questions that you may have.

STATEMENT BY

CHIEF INFORMATION OFFICER OF THE DEPARTMENT OF DEFENSE

HONORABLE EMMETT PAIGE, JR

ON THE IMPLEMENTATION OF

THE INFORMATION TECHNOLOGY MANAGEMENT REFORM ACT OF 1996

BEFORE THE

COMMITTEE ON GOVERNMENT AFFAIRS

SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT MANAGEMENT AND THE

DISTRICT OF COLUMBIA

UNITED STATES SENATE

JULY 17, 1996

Mr. Chairman and members of the Committee, it is a pleasure to testify before you on the progress of the Department of Defense's implementation of the Information Technology Management Reform Act (ITMRA) of 1996.

Initially, let me thank the Chair of the Subcommittee, Senator Cohen, Senator Levin, and subcommittee members for your tremendous leadership in bringing about passage of ITMRA. To tackle the immense problem of reinventing IT acquisition and management within the federal sector is no small feat; we wholeheartedly endorsed its passage and are grateful for the member and staff dedication that has produced this bill. I am one of many who lived with the Brooks Act on both the industry side and the government side of the ledger for many years. I was convinced that it had outlived its usefulness and was primarily serving to keep a lot of lawyers busy and costing industry and the taxpayers a lot of money.

We in DoD are also very encouraged by the leadership that OMB has shown in its partnership with you in securing passage, and in its continuing leadership in implementation efforts to date. We at DoD collaborated closely with OMB when that office

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initiated an in-depth executive branch rethinking of federal sector IT issues in 1995. We strongly support their efforts; their strategic view combines the best of agency autonomy and empowerment with targeted, focused, and therefore highly effective oversight.

ITMRA will undoubtedly revolutionize federal sector IT practices. Its requirements to require capital IT investment analysis and link it with budget processes, to use business process reengineering prior to substantial IT acquisition, and to institutionalize performance measures and management, will positively impact virtually all aspects of executive branch business. It should also be a model for state and local governments, and even for most of the commercial sector. The phenomenal growth in outsourcing IT in the commercial sector is testimony to the fact that they have serious problems in application of this rapidly evolving technology in an effective and efficient manner. I am not here to tell you that ITMRA is the answer to all of the federal sectors problems in the acquisition and applications of this rapidly evolving technology. We will never be able to keep pace without further changes in the authorization and funding processes. We simply must find ways to enable an

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overall acceleration in the "total" process. Control
of the "requirements" process is equally important.
Requirements "creep" is a major issue as one reviews
the implementation of major projects that have failed
or that have experienced serious problems. Again,
ITMRA is a major improvement and will help in all
aspects, but we still have a long ways to go.

Of course, "the devil is in the details,"
particularly with legislation such as the ITMRA that
mandates a fundamental policy shift. I am convinced
that most of the senior leadership at the Department of
Defense are deeply committed to aggressive
implementation of ITMRA within the department.
Likewise, I am sure that there are some hurdles that
will have to be overcome as we move ahead. They will
have to be dealt with by the senior leadership, and I
am sure that with the pressure that hopefully will
continue to come from congress in the years ahead,
forcing action will be taken. Without strong
congressional pressure and interest for at least 10
years, I am convinced that ITMRA will not be executed
successfully across the federal sector with the full
spirit and intent of the legislation.

Today I would like to discuss with you the

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philosophy underlying our approach to ITMRA
implementation, describe that approach, and then
present the most important of our recommendations to
date.

We want to vigorously implement exactly what is
expected of us by ITMRA and by Administration policies.
We are pursuing this objective by attempting to
seamlessly integrate the ITMRA into the existing DoD
structures and processes to the maximum extent
practicable. Therefore, we are focusing on the
existing DoD Planning, Programming, and Budgeting
System (PPBS) within which to embed the ITMRA process.
ITMRA does not stand a chance of success in DoD unless
it is embedded into the PPBS processes.

Let me briefly discuss the PPBS: In 1961, as Alan
Enthoven and K. Wayne Smith, two of the McNamara whiz
kids, recount, the then-newly confirmed Secretary of
Defense understood "that the principal problem in the
efficient management of the Department's resources was
not the lack of management authority,...but...rather
the absence of the essential management tools needed to
make sound decisions on the really crucial issues of
national security."   To obtain the needed information
and control systems, Secretary McNamara charged his

Comptroller with making a systematic analysis of all requirements and incorporating these into a five-year, program oriented defense budget. This "systematic analysis" was institutionalized as the Planning, Programming, Budgeting System.

"The fundamental idea behind PPBS was to promote decision-making that was based on explicit, objective criteria of national interest, as opposed to decision-making by compromise among various institutional, parochial, or other vested interests in the Defense Department. These criteria could then be used by the Secretary of Defense, the President, and the Congress as measures of the need for, and adequacy of, defense programs."

Though not without areas for improvement, the PPBS has well-served the Department as a key management tool. Therefore, for our ITMRA implementation, the existing PPBS, along with its execution and evaluation "tail," will remain substantially intact, with ITMRA-mandated changes inserted within its existing framework.

As a first step, the Office of the Secretary of Defense recognized soon after the President signed the ITMRA that a Chief Information Officer for the

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Department of Defense needed to be rapidly appointed if
we were to make substantial progress towards the August
8, 1996 ITMRA effective date. After consulting with
the Under Secretary of Defense for Acquisition &
Technology, the Chief Financial Officer, and the
General Counsel, we recommended to the Deputy Secretary
of Defense that he designate my position - that of the
Assistant Secretary of Defense for Command, Control,
Communications, and Intelligence (ASD(C3I)) - as the
CIO, DoD, and the Principal Deputy ASD(C3I), the Deputy
CIO, DoD. On March 14, 1996, the Deputy Secretary of
Defense so designated my office, with subsequent
affirmation by OMB.

     This assignment was based on analysis of the
duties of the position when superimposed on the
existing Office of the Secretary of Defense structure
and responsibilities. Overall, the functions performed
by the ASD(C3I) were substantially identical to those
of the CIO, required under ITMRA, as the ASD(C3I) was
already the senior IRM official of the agency under the
Paperwork Reduction Act. DoD had consolidated all the
duties of the CIO under the ASD C3I during the Bush
Administration as C4I had been splintered between the
Comptroller and the ASD C3I prior to that time. We,

the ASD C3I had in place an extensive information technology program and acquisition oversight mechanisms and provided the tools and capabilities to help improve DoD's business processes. Finally, the ASD(C3I) charter already provides direct reporting and access to the Secretary of Defense whenever needed. On a day to day basis the direct interface is with the Deputy Secretary of defense who is in effect the Chief Operating Officer of the DoD.

While Dr. White, the Deputy Secretary, was determining who the CIO, DoD was going to be, I challenged my staff to develop, based on their knowledge of the intent of the ITMRA, a framework that would seamlessly integrate the ITMRA into existing processes, in particular at the OSD level, the Planning, Programming, and Budgeting System (PPBS). Their recommendations have not yet been fully coordinated and approved by all of the stakeholders within within the Department, but I would like to summarize some of them to you.

First, to ensure that DoD will shift its IT investments towards a strategic business and mission focus, the CIO, DoD will develop strategic planning guidance for IT investments annually, and this guidance

will be incorporated in or referenced by the existing
Defense Planning Guidance. A DoD IT Strategic Plan
will be developed and updated annually to reflect the
Department's IT strategies, goals, and objectives. It
will address each of the functional areas (e.g.,
logistics, C3I, personnel, health, finance), cutting
across the individual services and defense agencies.
It will also provide service and defense agency plans,
consistent with the functional area plans. This plan
will provide a basis for measuring progress in
implementing our IT programs.

Second, Component Program Objectives Memoranda
(POMs) will be responsive to the Defense Planning
Guidance, which will include more specific guidance for
IT investment than it has in the past. A review of the
latest DPG will reflect that DoD had already began to
include more specific guidance before this legislation
was evident. Exhibits included in the POMs provide
data on IT investments, including computing and
communications infrastructure as well as functional
applications, and will continue to be improved to
provide more visibility to the DoD IT investment
portfolio. As we develop performance measures, these
will be reflected in the POM exhibits so that they can

be used more directly to make resource allocation decisions. It should also be possible to adapt the exhibits to better track progress in implementing our strategic plan.

Third, we will institutionalize performance measures for all C4 systems to include those referred to as Management Information Systems. For the DoD ITMRA implementation, we consider performance measures to be a critical means by which senior management personnel of DoD will obtain timely information regarding the progress of an investment in an information system. It must include a system of independently verifiable milestones for measuring progress in terms of cost, capability of the system to meet specified requirements, timeliness, quality, and how well the information technology supports DoD programs and missions. We are in the process of trying to create performance measures that are meaningful but which will not unto themselves create a bureaucratic bottleneck to progress, or be too costly to enforce. We do not want to create a management nightmare in the process of doing performance measurement.

For our portfolio of existing investments and

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funded new starts, performance measures will be tracked on a near-real time basis by a Performance Measurements Program Management Tracking System that we are in the process of trying to develop. We intend for this system to provide early warning for the programmatic reviews that take place during the execution/evaluation phase of our model and expect that it will be used extensively in determining the IT investments of the Department. Additionally, we are developing a DoD ITMRA Performance Measurements Guide that hopefully will provide our personnel with a minimum mandatory set of performance measures which will report the progress of IT investments in terms of cost, schedule, benefits, and mission for the nine principal IRM areas: IRM Strategic Planning, Automated Information System Development, Business Process Reengineering, Data Standardization, Migration Systems, Information Assurance, Telecommunications, Acquisition Management, and Acquisition Oversight. The guide will provide instructions on how to create additional ITMRA performance measurements for the remaining IRM functional areas.

Fourth, we will insist on active interest, direction, and leadership by the senior political

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appointees in each functional area in the business process re-engineering. We have had good luck helping other federal government Agencies with their BPR efforts and continue to pursue the institutionalization of BPR with the OSD functional proponents. ITMRA and the roles prescribed for the CIO will be of assistance in bringing the senior leaders below the Secretary and Deputy Secretary onboard. We will continue to place emphasis on and increase our use of business process reengineering to also reflect ITMRA analysis. Let there be no doubt that there is much to be done with business process re-engineering in DoD and certainly the rest of the government sector. Most of our MIS or business systems and combat support systems today are nothing more than where manual processes were automated. Very little has been done to fully exploit the use of modern, evolving computer and communications, or IT technology to improve the business processes over the manual methods.

Over the past six years, DoD has been a pioneer and pace-setter in reengineering, including both business and tactical processes. I think it fair to say that we are recognized national leaders in this area. Over 160 projects at all levels of the Department have already

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conducted BPR projects. Over 230 additional projects
are now underway with more are some expected in Fiscal
year 1997. Unfortunately, in some functional areas the
leadership have not bought into these efforts. The
result is that most of the completed projects have not
been implemented. Hopefully we can use ITMRA as a
vehicle for making business process reengineering a
normal and routine management practice at DoD.

Let me share with you an example of one of our most
successful business process reengineering efforts in the
DoD: The United States Marine Corps is undergoing a major
modernization of its organizational structure. They started
out with a simple premise. There has to be a better way to
ensure that every Marine sent to face an opposing force is
the best trained, best equipped, and best prepared for that
task. They applied the business reengineering principles to
their Combat Development activity and soon found that
ensuring safety and security really involved the entire
Marine Corps. They expanded their project to create the
business enterprise view from the top. Operating the
program and implementing reengineered business processes
requires major changes in how Marines work and think within
the business enterprise. Such cultural change is happening
because of the personal direction and commitment of the

Corps' top leaders. The Commandant is in charge of this effort and the Corps knows that he is enthusiastic about the process. His project manager is the Assistant Commandant of the Marine Corp.

To date, they have modeled all their major Corps support functions and developed data models of common data. They are now using the DoD Enterprise model to develop future views of how they should manage processes and utilize common data to simplify and expand combat support services. Their reengineering work to date will also provide the foundation for fulfilling the requirements of the Government Performance and Results Act in the Corps.

Fifth, we will assure that the Military Departments and Defense Agencies designate Chief Information Officers in conformance with the ITMRA. we will also establish a CIO, DoD Council consisting of all these CIOs. This council will operate, much as the government-wide CIO Council, which we strongly support, as the principal DoD forum for development of coordinated, IT policies, standards, programs, and acquisitions.

Sixth, we will provide training to DoD personnel on the details of our ITMRA implementation. We will ensure just-

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in-time training is available and provided by the
Information Resources Management College (IRMC) to
Departmental personnel at the Executive and Management
Levels. Further, we will ensure that adequate training is
available from other sources, e.g., DoD School houses,
Military Academies and Private Industry.

The initial focus of this training will be geared to
CIOs/Deputies and GS-13's and above. The mid-long term
training focus will be on the identification of other
methods and vehicles to train the remaining DoD employees,
such as computer-based training, Internet, Service Work
Groups and symposia.

· As a result of a detailed review of the ITMRA Act and
the CIO Position Description, competency areas have been
developed to acquire a baseline for course development and
eleven new courses are being developed to meet the
requirements of the ITMRA at the IRMC. Six sessions on the
CIO/ITMRA are being planned to be given at the IRMC in FY
1997 for Department CIOs/Deputies and Senior IRM officials.
 The first session is scheduled for October 1996.

These six recommended changes constitute the broad
sweep of our implementation of ITMRA within our
existing framework. In order to implement these
changes in detail, in a well-coordinated fashion

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throughout DoD, we have formed a DoD ITMRA Management
Implementation IPT or Integrated Process Action Team
(MIIPT). In addition to the Services, the MIIPT
includes the DoD Comptroller to integrate ITMRA efforts
with the CFO; the DUSD for Acquisition Reform to insure
that the MIIPT is synchronized with their ongoing
effort to implement FASA, FARA, and the procurement
portions of ITMRA; DISA and DLA for their IT missions
use; and NSA and DIA to make certain that their needs
are taken into account.

On April 9, the MIIPT held its first meeting.
Correlated to the DoD IT Capital Planning Investment
Model, six Working-Level Integrated Product Teams
(WIPTs) were ramped-up over the next few weeks in the
areas of: Chief Information Officer (CIO) Support,
Planning, Programming, Budgeting, Execution/Evaluation,
and, Training.

The overriding goal of the MIIPT and the WIPTs is
to produce a coordinated interim ITMRA policy document
with an associated implementation plan and resource
annex that will be submitted by August 2, 1996 to the
Deputy Secretary of Defense by the ASD(C3I). The
finalized documents to be sent to Dr. White will
contain recommended policy to institutionalize the CIO

concept throughout DoD, and to provide the reporting
chain from the CIO, DoD to the CIOs at the Military
Departments, Services, and Defense Agencies along with
oversight linkages for it acquisitions and programs.
Further, it will provide for the institutionalization
of ITMRA performance measurements and the PMPMTS, and
for the Strategic IT Planning Process, as I have
outlined for you. The MIIPT will be used to staff
these documents with the respective Services, Agencies,
and OSD Staff. This afternoon, I, along with the CFO,
Director PA&E, the Service and Defense Agency CIOs and
CFOs, will be briefed by the chair of each of the WIPTs
on their progress to date.

In sum, DoD has been on the move in our efforts to
successfully implement ITMRA, both within our agency
and within the executive branch. In addition to the
efforts I have just described, we have also
participated in-depth with the OMB-led efforts to
implement the governmentwide aspects of ITMRA,
including the development of the interagency group IT
.structure, OMB Circular revisions, and FIRMR
disposition and FAR modifications. I believe it will be
a highly effective structure. Agencies can and should
utilize the advice of interagency groups when making IT

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investment decisions. If these groups fail to provide useful advice, or, if that advice is not taken, the investment control and capital planning process will result in suboptimal investments, missed benefits, and higher costs and the opportunity to create strategic IT directions across the Federal Government will be lost.

Overall, we at DoD are very enthusiastic regarding the possibilities and challenges that ITMRA presents. We do note, in accord with our desire to achieve real implementation of the "spirit and intent" of ITMRA, some remaining areas of concern.

We are concerned that follow-on litigation, including supplemental protests and enforcement proceedings, may be used to unduly extend GSBCA jurisdiction beyond that period contemplated by the Congress when it passed the ITMRA repealing the Brooks Act. We are also concerned about the Delegations of Procurement Authority (DPAs) that were issued prior to August 8, 1996. Those DPAs are part of the legal authority for the contract, so they cannot simply "disappear." Yet, GSA's legal authority to manage them expires on August 8, 1996. Therefore, we recommend that authority to manage these DPAs, be transferred or delegated to the agencies by GSA in accord with the intent of the ITMRA. OMB is in the process of ensuring that these concerns

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are addressed.

Second, there have been some indications that GSBCA intends to continue a role for itself in the contract award process beyond the ITMRA effective date. We question whether this is consistent with the intent of Congress in removing GSBCA's protest jurisdiction.

Third, we continue to urge a method of rulemaking and regulation development that utilizes an integrated product team, or IPT, approach. We would like to see an implementation process where the user - the agency - is involved in the upfront drafting process, and where the process is not a serial one of endless circulation of drafts that does not always effectively address the substantive points of the commenters. We also believe that this process should solicit and address industry comments early in the process. This is particularly important for this procurement related coverage, which has significant impacts. We encourage this subcommittee to address the ITMRA rulemaking process generally in this area.

Fourth, we are especially eager for the acquisition related, FAR coverage to be innovative and "cutting edge." There is a need for some acquisition policy guidance that is unique to IT. Use of

Indefinite Delivery-Indefinite Quantity contracts, contract options, best value determinations, past performance criteria, are all areas that have special applicability to IT acquisition and may require FAR coverage, albeit discretionary.

We believe, however, that these issues can be readily addressed by the same spirit of partnership that has characterized our executive and legislative efforts to date.

In conclusion, I would like to thank you again for your leadership in bringing about the ITMRA, and for your continuing strong support of our executive branch efforts to implement it wisely and effectively. There is much tough, hard work to be done to implement IMTRA within DoD and the road will be a tough one to travel, but you can rest assured that the senior leadership will get the job done.

We look forward to our future work together.

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TESTIMONY OF STEVEN M. YOHAI
CHIEF INFORMATION OFFICER AND
DIRECTOR, OFFICE OF INFORMATION TECHNOLOGY
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
BEFORE THE
SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT MANAGEMENT
SENATE COMMITTEE ON GOVERNMENTAL AFFAIRS

JULY 17, 1996

Good morning, Mr. Chairman. I am very pleased to be here
this morning to share with the Committee our experience to date
and our plans for continuing implementation of the Information
Technology Management Reform Act (ITMRA) of 1996 at the
Department of Housing and Urban Development. HUD is building
upon a foundation of established Information Technology strategic
management and infrastructure delivery accomplishments to support
the implementation of ITMRA Departmentwide.

Current IT Management Environment at HUD

As HUD's CIO, I have responsibility for strategic, tactical,
and technology infrastructure delivery functions within the
responsibilities and authority of the CIO. The HUD CIO chairs
the Department's Technology Investment Board (TIB) and is a
voting member of the executive level Management Committee, which
is chaired by the Deputy Secretary. The TIB and the Management
Committee are the forums in which the strategic and tactical
components of managing the HUD IT investment portfolio are
discussed and approved.

The delivery of technology infrastructure products and
services within HUD has historically been conducted within the
organizational structure of the Assistant Secretary for
Administration, specifically, within the Office of Information
Technology. HUD will continue that very successful delivery
process. As part of my CIO duties, I will continue to serve as
the Director of the Office of Information Technology, and will
directly oversee the delivery of the technology infrastructure
for the entire Department.

All three of these areas (strategic, tactical, and
infrastructure delivery) are critically important to my success
as CIO, and to the success of implementing ITMRA at HUD. HUD has
established processes and procedures for not only my significant
involvement in each of these three areas, but also for the
participation of senior Departmental business managers in each of
these processes. The interconnected responsibilities and
authorities which link the strategic, tactical, and
infrastructure delivery processes create a Departmentwide system
of checks and balances which is focused on effectively and
efficiently meeting customer business needs. HUD's business
areas are my customers.

These customer-focused checks and balances will assure that the CIO has the authority and visibility necessary to carry out the capital planning and IT performance-based management requirements of ITMRA. In addition, senior program managers will have clear responsibility for assuring that IT investments are targeted to support mission critical business processes, and for managing the information resources associated with their business processes.

For example, one critical component of this system of checks and balances is the Working Capital Fund (WCF), which is used to fund **ALL** IT infrastructure and investment expenditures for the entire Department. The TIB recommends, and the Management Committee approves all WCF resource allocation plans. The Office of Information Technology manages the WCF for the Department, and maintains a formal business relationship with program area customers to deliver technology infrastructure products and services. The IT Office signs reimbursable orders with each program area customer, specifying the IT services and products to be delivered and the cost for those products and services, and then bills those customers monthly for the products and services which have been delivered. The program area clients clearly see what they are being billed for IT products and services, and confirm their acceptance of those products and services by paying the bill -- reimbursing the WCF.

This centralized provision of all IT infrastructure products and services for the entire Department enables me, as CIO and Director of the Office of IT, to exercise considerable authority in managing the information architectures for the Department, and to maintain an exceptionally high level of standardization of hardware, software, IT processes, data, and information systems throughout all HUD offices. The WCF, TIB, and Management Committee processes provide senior HUD program managers with the mechanisms to assure that the Department's entire IT investment portfolio is focused on achieving mission critical business objectives. The HUD CIO is strategically positioned in all of these processes:

1.   As Director of the Office of Information Technology, the CIO manages the WCF, all levels of IT standards, the Department's Information Architecture, and the delivery of all technology infrastructure products and services for the entire Department, through the Office of the Assistant Secretary for Administration.

2.   The CIO chairs and directs the Department's Technology Investment Board, comprised of senior managers from each program area of HUD, including the Office of the Assistant Secretary for Administration. As Chair of the TIB, the CIO can truly represent Departmental

interests. The TIB reviews and recommends IT
investments for approval by the Management Committee.

3.   The CIO is an independent voting member of the
       Management Committee, which is chaired by the Deputy
       Secretary, and is also comprised of program Assistant
       Secretaries, the Assistant Secretary for
       Administration, the CFO, the Inspector General, and the
       General Counsel. The Management Committee reviews TIB
       recommendations and approves the HUD IT Investment
       Portfolio.

Capital Planning and Performance-based Management of Information Technology

As HUD's CIO, I will perform my strategic role primarily
through the TIB and the Management Committee, as I have mentioned
earlier. The TIB and Management Committee oversight and approval
functions help ensure that HUD's capital planning and IT
investment decision processes link IT investments to achieving
business goals which support the mission of the Department. The
TIB has recently adopted, subject to Management Committee
approval, a new TIB Charter which specifically articulates ITMRA
capital planning and performance-based IT management
requirements, including the examination of all proposed IT
investments to determine if the function or work process which
the investment will support is one which should be performed by
the private sector or another agency.

In addition to full participation in these key management
and executive level forums, however, I have already established
critical strategic planning processes and tools which will enable
HUD to precisely tie IT investments to achievement of mission
critical, core business objectives. These processes and tools
will also have the effect of stimulating business process reviews
and, where applicable, process redesign initiatives. Before the
end of Fiscal Year 1996, HUD will complete an agency wide
Information Strategy Plan (ISP), which will document the HUD
Information Architecture necessary to support the HUD business
strategy as expressed in the Management Action Plan entitled
"Transforming HUD into a Streamlined, Community-First Cabinet
Agency," other complementary strategic business planning
documents, and extensive interviews with executive level program
managers.

The ISP products will include an assessment of current
information systems, documentation of the target Business Systems
Architecture and Technical Architecture for the Department, and
the strategic plan for getting from where we are to the target
architectures. The CIO, with the TIB and the Management
Committee, will use the products of the HUD ISP to manage the

Department's Information Technology portfolio. In addition, the HUD ISP will enable the Department to incorporate explicit, mission directed strategic IT initiatives in initial budget formulation processes, a significant step forward for the Department. As CIO, I will assure that the ISP is updated regularly to reflect baseline business, process, and technology changes.

Short- and Long-Term Results of ITMRA Implementation

HUD has already begun to realize short term results from the implementation of ITMRA. My designation as HUD CIO has re-emphasized, and given heightened visibility to the importance of Information Technology and Information Systems as strategic tools for achieving the critical business goals of a reinvented HUD. In the past few months, both the Technology Investment Board and the Management Committee have increased the scope and intensity of their oversight of HUD's IT investment portfolio. A major systems integration project has been closely reviewed, resulting in significant mid-course corrections to bring it back in line with program area business objectives.

Over the longer term, we expect the full implementation of ITMRA within HUD to result in a more routine and rigorous application of IT considerations and resources to the strategic business decisions of the Department, including, for example, those business decisions which will be necessary for addressing the Year 2000 problem, and those which will be necessary for realizing the Department's ambitious reinvention objectives.

In conclusion, HUD's strategy for implementing ITMRA, particularly the capital planning and IT performance-based management requirements of ITMRA, is predicated on building upon our established and successful IT and IRM practices and achievements. We believe that, while full implementation of ITMRA cannot be fully realized "overnight" in any agency, our strategy for ITMRA implementation provides HUD with a significant initial step towards full implementation.

I want to thank you for the opportunity to share HUD's ITMRA achievements and implementation plans. I look forward to meeting continued ITMRA challenges at HUD, and to working with my colleagues in other agencies to assure successful implementation of ITMRA throughout the government. I would be pleased to answer any questions that you may have.

STATEMENT OF

JOE M. THOMPSON

CHAIRMAN, CHIEF INFORMATION OFFICERS WORKING GROUP

ON THE IMPLEMENTATION OF

THE INFORMATION TECHNOLOGY MANAGEMENT REFORM ACT OF 1996

BEFORE THE

SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT MANAGEMENT AND

THE DISTRICT OF COLUMBIA

COMMITTEE ON GOVERNMENTAL AFFAIRS

UNITED STATES SENATE

JULY 17, 1996

Background

Mr. Chairman and members of the subcommittee, it is a pleasure to testify before you on the issues raised and addressed by the Chief Information Officer (CIO) Working Group regarding the implementation of the Information Technology Management Reform Act (ITMRA) of 1996.

I would like you to know that GSA is very pleased with its new role in the post-Brooks world. While this role is very different from the one that we've had, let me assure you that we hope to be helpful in assisting OMB in support of the Executive Order. In the spirit of that cooperation, I worked to organize the Chief Information Officer working group in an effort to assist agencies in the early weeks after ITMRA was signed.

As Chairman of the CIO working group, and as a participant with Congress and OMB in developing this legislation, I have been impressed with the continuing cooperation by all sides in crafting answers for a long-standing problem. Together, Congress, the White House, OMB, private industry, and the agencies have created a piece of legislation that provides flexibility to individual agencies while insuring the taxpayer sees a greater return on the federal government's information technology investments.

For this legislation to work as we have envisioned, it is essential that we do not make the CIO just a technical decision-maker. As GSA's Acting Administrator, David Barram has said, "The ultimate fiscal authority and responsibility (within an executive agency) lies with the CEO or Department Secretary. The CIO supports this authority through capital planning and investment." As we elevate IT issues to higher visibility in agencies, the CIO should be the one agency leader that asks three major questions:

1. Do we need to do this work at all?

2. If so, are we the best people to do it or can someone else do it better?

3. Have we done enough reengineering to maximize the impact of the IT solution?

Only after these basic questions are asked and answered can we then move to the technical issues of what is the best system, how do we buy it and measure its performance.

The Information Technology Management Reform Act (ITMRA) was signed into law on February 8th, 1996. Included within this legislation was statutory language which called for the appointment of Chief Information Officers (CIO) within the Federal government's major departments and agencies.

In the months since the Act was signed into law, over 80 senior IT executives from 28 departments and independent agencies have joined together in a Federal Chief Information Officer Working Group to implement the CIO concept across government.

The Working Group meetings have provided the agencies with an opportunity to share advice, information, and relay "lessons learned" on capital planning and investment control. More importantly, the Working Group has given the agencies a forum for sharing their ideas on the roles and responsibilities of a Federal CIO as well as discussing other pertinent IT management issues.

Throughout the past seven months, the Working Group has not only exchanged information among its members, but it has also solicited outside expertise. Specifically, the Working Group heard presentations and updates from some of the foremost policy-

makers in the IT management field both in the public and private sectors. As the CIO working group concludes it mission, this testimony provides an excellent opportunity to brief the Committee on its collective recommendations.

Membership

At the conclusion of my written testimony I have attached a list of the working group's membership, which included many of the speakers here today including John Koskinen from OMB, Chris Hoenig and Dave McClure from GAO, Assistant Secretary of Defense Emmett Paige and Steve Yohai, the CIO of Housing and Urban Development.

A Forum for Discussion

Since the first meeting in January, the Working Group has heard from a number of IT policy makers, both in the public and private sector.

John Koskinen provided leadership and shared information with the group regarding the OMB approach under the new ITMRA to governmentwide IT planning.

Paul Brubaker and Bill Greenwalt, both staff members from this Subcommittee and contributors to the ITMRA legislation, provided background information on the original intent of the Act as well as a view from the Congress on the implementation of the CIO concept.

Bruce McConnell, OMB's Chief of Information Policy, provided a series of updates on the new OMB approach to governmentwide IT Planning in light of the removal of governmentwide centralized information oversight.

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David McClure and Chris Hoenig with the General Accounting Office's IRM Policies and Issues Group, discussed the value and uses of effective Capital Planning.

Finally, Renny DiPentima and Hank Philcox, both former Federal agency IRM officials Officers and current private sector IT executives provided the Working Group with their insights and perspectives.

Team Formation

In addition to sharing valuable information and gathering a wide variety of perspectives and experiences on Chief Information Officers, the working group formed four sub-groups:

•   A "Future of the FIRMR" group, chaired by NASA, has delivered a report and recommendations to the Office of Management and Budget.

•   A group on "Capital Planning and the Investment Board," chaired by GSA, has provided OMB with a Capital Planning definition, helped in drafting OMB's IT investment guidance, and is in the process of defining and describing a model "IT Investment Board."

•   A group on the "Roles and Responsibilities of the CIO," chaired by the Commerce Department, drafted a standard position description and implementing organizational documents.

•   A group on the "Charter for the CIO Council" chaired by the Department of Agriculture which drafted a proposed charter for consideration by the new Federal CIO Council.

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The Working Group will hold its final meeting this week and is making available to OMB its final recommendations on the operations of a Federal CIO Council. This report also includes the reports of the three working teams.

Recommendations

With the remainder of my time today, I would like to share the working group's recommendations with the Committee. While the continuing independence and flexibility of each agency is vital to the spirit and intent of ITMRA, the working group developed eight recommendations for government-wide implementation of the law. The working group realizes that these recommendations are but one way to think about the implementation of ITMRA. Besides the working group, several other groups have come up with ideas for how CIO's should organize themselves with the agencies. For example, the Industry Advisory Committee (IAC)-CIO Task Force who participated in the CIO working group and the Association for Federal Information Resources Management (AFFIRM) have also made recommendations about the duties, qualifications, and placement of the CIO. It is clear that no one approach will fit all situations and these recommendations are offered in that spirit.

• **The CIO must have both fiscal and organizational authority over IT investments. This authority can be shared with an executive-level group.**

The focus of the agency CIO is on technology investments: the selection, planning, and control of large technology acquisitions, and the application of technology to improve service to customers, reduce costs, increase productivity. As GSA Administrator David Barram has said, "The CIO should have the responsibility to pull together all the thinking and plans of the departments or bureaus, but the CEO or department secretary needs to

retain the authority for approving final investments and business process reengineering. Not unlike decisions about other significant changes in the organization." As a facilitator within the agency. the CIO brings together top agency leaders to discuss. plan and decide upon the most important issues of technology as they relate to agency's mission or business goals and capitalize on industry and market advancements.

The key to this role is the ability to gain authority over IT budgets. Without this authority the CIO's role in technology investment is badly eroded and with it the ability to implement the changes in government specified by the new legislation and the President. While there is no specific formula to gain this important power, it is a critical element in creating a successful CIO, both in the public and private sector. The individual department or agency needs to recognize its importance and give investment authority to the CIO in a manner most appropriate to that organization.

• The CIO's role in the organization should be at the highest executive level.

The effectiveness of the CEO / CIO relationship is a decisive factor in any organization's success. Part of this relationship is a direct reporting structure between the CIO and the head of the organization.

In order to be effective, the CIO must have authority over agency-wide IT decisions. All major IT decisions should be made through the CIO. This authority can be shared with a high-level group that oversees the organization's major technology investments. This is how the process works at the General Services Administration. The CIO reports directly to the Administrator and a Business Technology Council, made up of the top leadership from across the agency approves major IT investments.

The leading private sector organizations operate in a similar fashion. As Louis V. Gerstner Jr., the CEO of IBM, commented, "The CIO profession is undergoing the same transition that the CFO profession did several years ago... from a specialist to a general manager role. I believe the CIO role will evolve in a very significant way into an executive committee role, as part of the senior team. Companies that make that evolution will have a competitive advantage."

Effective leadership of the organization's Information Technology policy requires a collaborative relationship between the CIO, the CFO and the CEO or Secretary, one that emphasizes the value the CIO can bring to the transformation process by having an enterprise view, a process orientation and a broad understanding of the economics of the business and its industry. The single most powerful factor influencing successful interaction between the top leadership is the same attitude toward information

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technology. When they share the view of IT as an enabler of transformation, effective decisions and positive results closely follow.

In a more proactive role, the CIO can act as an entrepreneurial partner inside and outside the company, identifying, justifying and leveraging new opportunities. In some cases, this may mean extending the company's sphere of influence beyond the original vision, a decision that obviously needs the firm agreement and support of the CEO.

But even more critical than the reporting relationships is the acceptance of the CIO by the CEO and other key executives as a valuable member of the overall executive team. Specifically, the CIO must be considered a business thinker with an enterprise perspective as well as a technology visionary who can describe in business, not technical, language how technology can be leveraged to achieve major change and enhance business strategy. There must be a shared vision in which a strategic direction is set, and clear and compelling common goals are provided.

• **The Federal CIO Council should be responsible for government-wide capital planning.**

Currently, capital planning is a new concept within the Federal community. Little formal capital planning has occurred and it requires a new skill set for those of us in government. For these reasons, we believe that The Federal CIO Council should be responsible for government-wide capital planning.

The council, with the assistance of the GAO could initially offer technical advice on pilot capital planning programs, training of staff, development of performance and investment measures, and other aspects of capital planning. The council would emphasize the

importance of Business Process Reengineering, investment analysis and other key steps in the capital planning process. We do not believe new legislation is currently needed to implement this effort.

In an environment where business transformation has become a way of life for successful organizations, the role of continuous capital planning will become larger. During our meetings, a few of the words we've heard to describe this new breed of IT manager are: "trusted consultant," "visionary," "an architect of enabling technology," "a partner with business executives and process owners," "an active change agent" and "innovator."

David Cox, CIO of Northern Telecom, put it this way: "The role of capital planning gives us a tremendous opportunity to effect change in the corporations where we work. The role has tremendous breadth, tremendous scope, and is, in fact, a critical success factor for the future of every business that I know of."

Capital Planning is a multi-stage process. In the blueprint stage, a business model is established, business processes are redefined, and a master plan is constructed-one that provides for an overall yet detailed blueprint for the transformation. The construction stage involves the implementation of new processes. Shifts in the corporate culture are initiated, enabling information technology is deployed, and new approaches to asset management and return on investment are introduced.

Business transformation and capital planning are ongoing processes, not final destinations. The CIO must be prepared to begin the business transformation life cycle anew over and over again.

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• CIO organizations follow one of three models, high-level strategic, strategic & tactical, or strategic, tactical & infrastructure.

The working group, after listening to industry's experience "what makes a good CIO," suggests that there is no one model for a CIO, but a range of three types:

- A High-level Strategic Organization -- The Chief Information Officer works directly with the Chief Financial Officer and the Chief Executive Officer. In this model, the CIO could be an executive without specific technical background; this CIO would have a small staff of only a few people; the focus would be on strategic matters and new acquisition investments.

- Strategic & Tactical -- The CIO, in addition to the model above, would also be in charge of the internal operations and would be responsible for the infrastructure.

- Strategic, Tactical & Operational -- In addition to the above models, the CIO would control all the IT resources of the organization, including budgets, personnel, etc.

• The Federal CIO Working Group recommends a model charter for the Chief Information Officers Council.

The CIO Council would be a resource which will help the Government to work better and cost less by promoting the efficient and effective use of information technologies, systems and practices. The CIO Council would serve as the principal forum for

executive agency CIO's to help establish strategic directions for the federal information infrastructure. A detailed charter, the result of the Federal CIO Working Group charter subcommittee is included in the working group's report to OMB.

• **The CIO Working Group recommends that the Federal CIO Council establish a executive training program to:**

> • Familiarize new appointees across government with the CIO
> concept.
> • Sponsor ongoing training for chief information officers
> • Encourage collaboration between agency chief information officers
> and chief financial officers through joint seminars and training
> opportunities,

The Information Technology Management Reform Act also requires agencies to ensure they have the skills needed to carry out the technology goals of the agency. To accomplish this objective, the Council endorses the concept of establishing cross-agency Technology Teams comprised of technology experts from across government to help individual agencies manage and develop large complex systems and acquire experience.

• **The CIO Council should be responsible for Government-wide infrastructure.**

The role of collaborative "Presidential Expert Teams" has been endorsed by the Administration, Congress, and other policy leaders. Such teams would bring together the best and most promising IT experts from across government to address particular situations as they arose. These teams would provide an invaluable resource of knowledge

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and expertise to IT systems where one agency alone could not. In addition, these groups would provide valuable lessons learned for the individual team members to bring back to their respective organizations.

• Abolish the FIRMR while retaining key areas of authority.

About 10% of the FIRMR, covering three general areas would be retained. Regulations which falls under GSA's authority, such as telecommunications and excess property would likely go to the FPMR.

Sections that are still beneficial, such as multiyear contracting authority go to the FAR. The group is also recommending that another group meet to develop a set of working definitions that could be used uniformly. For example, the group believes that the cost categories used in A-11 should be retained.

In conclusion, while every agency and CIO office faces issues unique to that organization, the working group has found that certain basic principles are essential for a successful CIO whether it be in the public or private sector. In addition, the group has found that as we move into this new era of IT investment, the Federal CIO Council should play an important role in education and leadership.

I would like to thank the subcommittee again for this opportunity to speak and for the continued cooperation between Congress and the executive branch in the success of the CIO Working Group. This group, with members from all parts of government and private industry, is just the

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latest example in a very encouraging beginning to this important piece of
legislation.

CIO WORKING GROUP

Department of Agriculture - **Wardell C. Townsend, Jr**., Assistant Secretary for Administration

Department of Commerce - **Alan Balutis**, Designated Senior Official

Department of Defense - **Emmett Paige, Jr**., Assistant Secretary of Defense for Command, Control, and Intelligence (C3I)

Department of Education - **Gloria Parker**, Director of Information Resources Group

Department of Energy - S.W. Hall, Deputy Assistant Secretary for Information Management

Department of Health and Human Services - **Dr. Neil Stillman**, Deputy Assistant Secretary for the Office of Information Resources Management

Department of Housing and Urban Development - **Marilyn A. Davis**, Assistant Secretary for Administration

Department of Interior - **Bonnie Cohen**, Assistant Secretary for Policy, Management, and Budget

Department of Justice - **Mark A. Boster, Ph.D.,** Deputy Assistant Attorney General for Information Resources Management

Department of Labor - **Patricia Lattimore**, Assistant Secretary for Administration and Management

Department of State - **Liza McClenaghan**, Chief Information Officer

Department of Transportation - **Eugene K. Taylor, Jr.**, Director for the Office of Information Resources Management

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Department of Treasury - **Dr. Bill Chou**, Deputy Assistant Secretary for Information Systems

Department of Veterans Affairs - **D. Mark Catlett**, Assistant Secretary for Management

Agency for International Development - **Joan Matejceck**, Acting Director for the Office of Information Resources Management

Environmental Protection Agency - **Paul Wohlleben**, Deputy Director, Office of Information Resources Management

Federal Emergency Management Agency - **John Hwang, Ph.D.**, Associate Director for Information Technology Services Directorate

General Services Administration - **Joe M. Thompson**, Designated Senior Official and **Don Venneberg**, Deputy Chief Information Officer

National Aeronautics and Space Administration - **Ron S. West**, Chief Information Officer

Nuclear Regulatory Commission - **Gerald F. Cranford**, Director for Information Resources Management

Office of Personnel Management - **Glenn Sutton**, Deputy Chief Information Technology Officer

Small Business Administration - **Lawrence Barrett**, Assistant Administrator for Information Resources Management

Central Intelligence Agency - **John Dahms**, Associate Deputy Director for Administration/Information Services

Coast Guard - **David Bernstein**. Information Resources Management Advisor

General Accounting Office - **Christopher Hoenig**, Director for Information Management Policy and Issues and **Dave McClure**,

Office of Management and Budget - **John Koskinen**, Deputy Director for Management, and **Bruce McConnell**, Director for the Information Policy and Technology Branch

Social Security Administration - **Carolyn Shearin-Jones**, Acting Deputy Director for the Office of Strategic Management

Small Agency Council - **Alan Proctor**, Chief Information Officer for the Federal Trade Commission

Information Technology Association of America - **Olga Grkavac**, Vice President for the Systems Integration Division

Industry Advisory Council - **Phil Kiviat**.

Testimony
of the

COMPUTING TECHNOLOGY INDUSTRY ASSOCIATION

before the

SENATE GOVERNMENTAL AFFAIRS COMMITTEE
Subcommittee on Oversight of Government Management
July 17, 1996

Holding hearings on the implementation of recent
federal procurement reform legislation

Testimony presented by
Mr. Alan Hald
Vice Chairman, MicroAge Inc., and
Chairman, CompTIA Public Policy Committee

with
David M. Nadler
Dickstein, Shapiro, Morin and Oshinsky, L.L.P
Counsel

and

Bruce N Hahn
Director of Public Policy
Computing Technology Industry Association

Good morning. My name is Alan Hald. I am the cofounder and Vice Chairman of MicroAge Inc. MicroAge is an international distributor and systems integrator providing information technology through a network of small franchised, co-owned, and affiliate resellers

I am also the Chairman of the Computing Technology Industry Association's (CompTIA) Public Policy Committee and a former chairman of the association. CompTIA represents 6,300 microcomputer resellers, equipment and semiconductor manufacturers, software publishers, distributors, integrators, service and long-distance telephone companies. The vast majority of CompTIA's members are small businesses.

Several years ago, when the recent round of reforms began, MicroAge took a new look at the federal market. At that time horror stories of government procurement ineptness, inconsistent and unfair treatment of suppliers, and absurd regulations abounded. Like many other companies in our industry, we had avoided government work, based on our assessment that selling to the federal government was a game only for insiders, those who were willing to learn about a totally new market, invest a substantial amount in the internal infrastructure to break into that market, and put up with the numerous aggravations inherent in selling to the government. Put simply, the government marketplace was nothing like the commercial marketplace that we were accustomed to

As the recent government reforms began to take shape, we concluded that substantial changes in the way the government buys goods and services were in the offing. We were heartened by the new procedures outlined in the government's new regulations that established common-sense procurement methods that are, in many ways, similar to those used by a vast majority of our commercial customers. Based on these recent acquisition reform initiatives, we concluded that our prospects of succeeding as a government vendor increased significantly, and we decided to enter the federal marketplace to provide quality information technology solutions at competitive prices. As a result of this acquisition reform, we created a Government Information Systems Division and have recently opened a Washington office

The enactment of the Information Technology Management Reform Act (ITMRA) encourages both industry and government to build upon the initiatives started by Vice President Gore's National Performance Review, which sought to streamline federal procurement by making the federal government more like private companies when obtaining goods and services. The Federal Acquisition Streamlining Act (FASA) followed the National Performance Review and implemented these broad goals in a number of ways. For instance, FASA established government preferences for commercial items, in large part to do away with the unnecessary and expensive proprietary items that were the hallmark of government contracts in years past. Additionally, FASA established the framework for the Federal Acquisition Computer Network (FACNET), which increases the simplified acquisition threshold for agencies that use electronic commerce to satisfy their procurement needs efficiently and effectively. The new standard for commercial items and FACNET have enabled more small private companies, like MicroAge's franchisees and other CompTIA members, to do business with the federal government than ever before

The ITMRA follows the tradition of FASA to accomplish the goals of the National Performance Review. We see many ways that ITMRA will allow the government to obtain the most appropriate technology solutions. For example, we are encouraged by the movement to a decentralized acquisition model in which federal agencies will be afforded broad discretion to determine what technology solutions they need to most effectively accomplish their missions, and how to go about procuring those solutions. This new discretion is particularly appealing because many in our industry perceive the current model of centralized information technology acquisition through the General Services Administration's delegation of procurement authority process to be unduly bureaucratic and cumbersome

We are also encouraged by the consideration of pilot programs that permit private industry to help the government find technology solutions to improve mission and administrative processes, and share in the rewards of successful solutions. We are particularly pleased that under the ITMRA, the government will consider privatization and outsourcing information technology requirements to private contractors. We urge you to seek small business input into those program.

Another heartening ITMRA development is the creation of the Chief Information Officer (CIO) position within agencies, which will lend clear accountability for agency information technology management. We are hopeful that agency CIOs will be akin to their commercial counterparts in accomplishing their mission of effectively and efficiently acquiring and managing agency technology resources

The ITMRA initiatives towards modular contracting are also a positive step towards commercializing federal information technology procurements, and will allow the government to take full advantage of technology developments as they occur. CompTIA strongly endorses this concept because modular contracting will enhance the competitive opportunities in the acquisition process and provide the government customer (and the taxpayer) the benefits and efficiencies that result from a robust, competitive environment. As with any flexible procurement system the modular approach must be viewed as the preferred model, with discretion allowed if another approach is justified

Finally, we are encouraged by the further development of FACNET to include on-line automation of Multiple Award Schedule (MAS) contracting and product/service information. This is particularly important because the GSA Schedule is a primary vehicle for government information technology purchases. Recently, the government has made the GSA Schedule easier to use and facilitated the government's preference for commercial items by allowing companies to provide "spot pricing" for products and removing maximum order limitation restrictions. The FACNET enhancements under the ITMRA, in conjunction with these recent GSA Schedule developments, will open the government information technology market to many technology companies that have previously been unable to compete in the federal marketplace

Under the new commercial procurement model, federal agencies will have much more latitude in how they do business. They can get better service and prices if they use this latitude to act as would a private firm shopping the commercial marketplace for information technology solutions. In so doing, federal agencies, led by their CIOs, should thoroughly assess their technology needs,

present and future, and clearly communicate these needs to technology solution providers These needs may best be accomplished by using the pilot programs contemplated under the ITMRA These pilot programs, in conjunction with the ITMRA support for outsourcing and privatization of technology solutions, will ensure that the federal agencies will receive the best solutions possible to accomplish their missions

Only time will tell how my company will fare under the changes to the government marketplace made by ITMRA, FASA, and the Federal Acquisition Reform Act (FARA) However, there is substantial evidence that many new companies have already been able to enter the federal market as a result of the recent changes in the procurement landscape As a result, the government is beginning to reap considerable savings, and now has access to a wider range of products, services and providers As the FARA and FASA regulations are refined and ITMRA regulations implemented, even more opportunities will be created for companies who wish to enter the federal market or expand their presence For these successes, supporters of the reforms in both Congress and the Administration deserve considerable praise and our thanks

Today, we are at the crossroads of change For industry and government to get the most out of acquisition reform, there needs to be an ongoing review of the implementation process at both the Congressional and regulatory level, with changes made as and where needed to achieve mutually desired goals We compliment Senator Cohen and the other members of the Committee for their role in the process

It is, therefore, no discredit to the supporters of FASA, FARA, or the ITMRA when we say that there are a few rough edges that need to be smoothed out If these bumps are smoothed out, whether through the regulatory process or legislative corrections, everyone will benefit even more from this recent round of procurement reform legislation This having been said, we provide some suggestions to help the government implement its goal of moving to a commercial procurement model

First, expose federal regulation writers, contract managers, and others to the commercial markets An example is in order My company's sales staff does not see federal contracting personnel at national trade shows My own buyers and procurement rulemakers do not know and have never met any of their counterparts in the federal market, and I believe the same goes for many of our customers' buyers and rulemakers This raises the question how can federal buyers operate like their counterparts in the commercial marketplace if they do not know and have rarely spoken with anyone in that line of work We suggest a mechanism to facilitate peer exchanges between industry and government to smooth the transition to a commercial process

Many of our concerns in this area arise from the fact that government contracting personnel may have little or no experience with the workings of the commercial marketplace With the advent and benefits of commercialization, the government is being asked to do things that it has never done before when acquiring technology resources The issues are not only technical, but reflect fundamental cultural differences in the way the government and the private sector acquire information technology resources These cultural differences dictate a need for a continuous dialog between the government CIOs and their private industry counterparts

Second, consider outsourcing and privatization of technology solutions to companies that "know the ropes" of commercial contracting and are at the leading edge of technology The ITMRA supports this approach, which can help federal agencies determine the best way to allocate funds for technology solutions to accomplish their missions

Finally, the government should examine multi-year funding of large-scale information technology contracts. Looking back at years of legislative action on the information technology acquisition process, it becomes clear that while many improvements have been made, these gains are only the beginning. We have come light-years in the direction of buying commercial technology solutions, but we still do not provide the government with the commercial incentives and associated benefits that drive the efficiencies in our relationships with our commercial customers

Indeed, these efficiencies of technology and cost have made the American computer industry the unquestioned leader in the world However, a fundamental distortion in the relationship between industry and government – especially in the case of multi-year, large scale information technology contracts—has made it difficult for government to share in the benefits of this leadership Examination of these contracts and the relationship between industry and government may facilitate the paradigm shift in the vendor-government relationship that is required to provide government with all the benefits of true commercialization. CompTIA enthusiastically endorses this examination.

There are also a couple of areas in ITMRA that present challenges that industry and government can explore together We have two specific concerns First, while modular contracting is a useful tool that may enhance competitive opportunities in the acquisition process, this tool must be used with thoughtful discretion Agencies should not use modular acquisition approaches in situations where other models can provide more effective and efficient technology solutions. We recommend that the regulatory implementation of ITMRA and accompanying guidance recognize that no single approach, modular contracting or full systems integration, will meet all the needs of the government CompTIA offers to assist OFPP determine the best way to implement modular contracting

Second, while the repeal of the Brooks Act will likely contribute to the goal of faster, more efficient acquisition of technology resources, we are concerned that the repeal of the General Services Board of Contract Appeals (GSBCA) authority to hear bid protests will leave vendors without adequate remedy for procurement controversies While other bid protest forums exist (such as the General Accounting Office and U S Court of Federal Claims), these forums afford significantly more deference to the government's actions than the GSBCA Indeed, the GSBCA is widely viewed in the information technology community as the best forum to ensure that vendors are treated fairly and evenly by the government in the acquisition process These interests are highlighted by such factors as the government's expanded use of "best value" procurements and consideration of past performance as a significant evaluation factor in contract awards Given the government's interest in "empowering" contracting officials, we believe that it is necessary to develop an enhanced management oversight process of the contracting function within agencies In the private sector, contracting professionals have had more discretion than their government

counterparts, but their performance is monitored continuously and more closely by their superiors to ensure that this discretion is exercised wisely With fewer restrictions and more latitude government contracting officers and program managers need to be held more accountable for their decisions

We must therefore strive to achieve a delicate balance Just as not enough discretion can inhibit the government's ability to obtain technology solutions in an efficient and effective manner, too much discretion can lead to an environment of favoritism and mistreatment Indeed, it was just such an environment that contributed to the enactment of the Competition in Contracting Act of 1984 (CICA) Small companies in many industries were able to enter the federal market as a result of CICA The GSBCA bid protest procedures protected small firms whose limited resources made them judicious in the use of such tools While bid protests should not be used imprudently or simply to realize a strategic advantage, there is no evidence that smaller companies used those procedures to thwart fair procurement decisions As we move to a more commercial model for procurement, these concerns become more evident The Committee should monitor the situation closely and consider enhancements to the bid protest process to ensure that government procurements are conducted properly and in accordance with applicable law

CICA also established a standard of "full and open competition", a practice endorced by a broad small business coalition including the Small Business Legislative Council, the U S Chamber of Commerce, National Small Business United, the National Association of Women Business Owners, the National Association of the Self-Employed, as well as the Small Business Administration's Chief Counsel for Advocacy They have pointed out that the lessor standard of competition under for smaller contracts creates situations in which very qualified small businesses could be precluded from bidding on substantial contracts The difficulty many companies have being awarded a GSA schedule or including their products on a reseller's schedule also inhibits competition The preference for telephone solicitation of offers, combined with a standard defining adequate competition as three offers also could cost the government substantially more than it should be paying This new standard should be watched carefully over the three years of its authorization to make sure the taxpayer and small businesses are both being treated fairly

Another concern we have is that the potential success of ITMRA could be constrained by FARA and FASA While recent reforms moved the government toward a more commercial model, certain initiatives have restricted the efficient procurement of information technology products and services Some of the regulations implemented under these statutes have been in place long enough that we can see both opportunities for improvement through regulatory adjustments, as well as several instances in which legislative adjustments are needed

First, while the ITMRA establishes authority for outsourcing and privatization of technology solutions, OMB Circular A-76 poses an impediment and should be revised to provide a level playing field for comparison of the costs of public and private sector performance of information technology functions The current process may be flawed because there is a preference for government acquisition vis-a-vis privatization For example, private cost estimates are subject to the rigorous Cost Accounting Standards (CAS) set forth in the Federal Acquisition Regulation

(FAR), but government estimates are not. Sentiments are even stronger across much of the small business community, which feels that the government is doing too much work that could be done more efficiently by the private sector

Second, while FACNET is a breakthrough in government electronic commerce, there are still system bottlenecks that must be relieved and enhancements made before the benefits of commercialization and simplified acquisition can be fully realized Specifically, FACNET reliability must be improved. Architecture problems have plagued FACNET, resulting in lost bids and vendor confidence in the network As fewer procurements are announced in the Commerce Business Daily, contractors must either access agency bulletin boards or turn to the private contract opportunity databases that have recently appeared in response to the growing need for comprehensive and reliable access to contracting opportunities In addition, because of these architecture problems, the government has been able to register only a small fraction of the companies that signed up to use FACNET Smaller companies and those that are new to the federal market are still being left out in the cold by a system that is designed to benefit all participants as well as government

As another step toward the commercial model, the government should consider providing as part of FACNET contractor-approved hypertext links to other sources of product and service information, such as World Wide Web Internet pages of individual vendors and associations who can provide links to large numbers of their members/vendors Additionally, to maximize the number of firms competing for federal contracts, vendors should not be required to collect and submit information beyond that which they regularly provide to commercial customers

Finally, we understand that the government has some concerns regarding the "year 2000" issue, and the ability of the government and other computer systems to handle the transition from 1999 to 2000 in a seamless manner We are acutely aware of the importance of the many public welfare and national security sensitive applications that make the correct handling of dates essential CompTIA is committed to working with NIST and OFPP to analyze and find a solution to resolve this issue in a manner favorable to all systems users

Thank you for the opportunity to offer our thoughts and suggestions

<u>Testimony on Implementation of the Information Technology Management Reform Act of 1996</u>

Submitted to the

Subcommittee on Oversight of Government Management and the District of Columbia
Senate Committee on Government Affairs

By

Stephen M. Smith
Managing Partner, Federal Government Practice
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Mr. Chairman, Senator Levin and other members of the Subcommittee, thank you for the opportunity to testify today on the Information Technology Management Reform Act of 1996 ("ITMRA") and its potential for revolutionizing the federal government's delivery of services.

My name is Stephen Smith. I am the managing partner of Andersen Consulting's Federal Government Practice, which currently has a broad range of information technology contracts with federal agencies, including the Department of Defense and many federal civilian agencies. Over my 20-year career with Andersen Consulting, I have worked with a broad range of private and public sector clients.

Andersen Consulting is a global management and technology organization whose mission is to help our clients change in order to be more successful. We work with clients from all levels of government, as well as the private sector, to help them integrate people, processes, strategies and technologies in order to improve efficiency and to achieve their organizational goals -- whether these are delivering services or products.

Andersen Consulting employs more than 38,000 people in 150 offices and 46 countries. In 1996, our worldwide operations generated revenue of $5.1 billion, approximately 85% from the private sector. Our clients include more than two-thirds of *Fortune* magazine's Global 100 companies, 46 of *Fortune's* 50 largest U.S. companies and all but one of the world's 15 most profitable companies.

I. ENACTMENT OF ITMRA

I applaud you, Senator Cohen, and members of the Subcommittee, for holding this oversight hearing today on the implementation of ITMRA and, specifically, the challenges and opportunities this new law presents. ITMRA provides the framework for transforming the way the federal government manages, develops, procures and implements information

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technology. With these reforms, the federal government can harness the incredible power of information technology to provide innovative and improved services to the public at best price.

The U.S. Government is the largest single purchaser of information technology, spending $25 billion annually on technology products and services. While that represents approximately five percent of federal discretionary spending, it is approximately 1 1/2 percent of the total annual budget. The private sector invests approximately the same amount of its total annual budget in information technology. In spending its scarce resources wisely, the federal government should attain the same benefits and overall return from its investment in IT that the private sector receives.

ITMRA incorporates fundamental and long-overdue changes for the management of complex technology initiatives, adopting numerous private sector "best practices" that we wholeheartedly endorse. With the subcommittee's emphasis today on ITMRA implementation, I will focus my testimony on lessons learned from both private-sector and government experience in implementing large information technology projects. I will also focus on the critical need to improve procurement practices so that they always support, rather than conflict with, an agency's business objectives and overall mission. Finally, my testimony will discuss how, through ITMRA, the government can maximize the use of innovative IT both within and across agencies.

II. CHALLENGES AND OPPORTUNITIES PRESENTED IN IMPLEMENTING ITMRA

With the enactment of ITMRA, the first step in transforming the government's purchase and use of information technology is now complete. The Subcommittee is now focusing on the second, no less important step: the successful **implementation** of ITMRA. Implementing ITMRA poses many challenges -- but with every challenge comes new opportunities.

This Subcommittee has chronicled a host of mismanaged federal government technology projects that have resulted in billions of dollars of wasted taxpayer dollars. It is important to note, however, that the private sector has had its share of failures. *Business Week, Fortune* and other business periodicals have reported on technology projects that failed to achieve desired results, ran over budget and left unexploited the opportunities for improvement.

Examples abound, then, of both successes and failures when it comes to private and public sector experience with information technology. The solutions are not simple. The lessons learned are much the same, although the public sector does sometimes present some unique issues.

How can successful implementation of ITMRA be assured? What are the critical elements of success or failure? How can experience from improving private sector operations through information technology best be brought to bear? These are the questions to which I now turn.

III. SUCCESSFULLY IMPLEMENTING ITMRA

A. A Sound Business Approach

Our private sector experience suggests that, for ITMRA to be implemented successfully, agency decisionmakers must utilize a thorough business integration methodology that aligns all of an enterprise's people, processes and technology with its strategy. The synergy of these areas, their interrelationships and the fact that the value derived from the integrated services is far greater than the sum of these parts, **together** enable us to contribute to our client's success.

First, like leading private sector organizations, the federal government must leverage technology to the benefit of its end user community -- that is, to reengineer processes in ways that reduce costs, increase productivity and improve service. Elimination of duplicative services and the resulting cost savings are an inevitable outcome of such an approach. Projects focused on merely doing the same thing, the same old way -- just more quickly -- almost always fail to produce sustainable benefits. The goal must be to deliver services to citizens better, faster and at the best price.

Second, projects must focus on achieving the agency's goals. Buying technology for technology's sake is a sure loser. No longer will computer services alone, or companies providing merely computer services, meet the information resource management requirements to support an organization's mission. Major initiatives must be clearly linked to an agency's strategic plan and vision. Each agency must know "what business they're in" and must focus on "what's most important" for the organization. It is the fundamental responsibility of an organization to define the goals and outcomes necessary to achieve the delivery of more efficient, effective government services. This means that, before moving forward with any information technology investment:

- clear performance measures must be set;
- major cost reduction and service improvements must be demonstrated;
- cost-benefit analysis must be performed, so that scarce technology resources are directed at those projects that can produce the best results assessed by specific performance and cost measures; and
- agency leadership, other employees and vendors must be held accountable for their performance.

In other words, each effort requires an extensive examination of an agency's operations, focusing on specific missions and customer needs, with an eye toward simplification. A focus on the outcomes and needs of the agency is necessary, so that agency heads can determine how best to eliminate unnecessary activities. Furthermore, a sound business case must be made for each information technology project. This requires quantifying the costs and benefits up front, and then measuring and tracking them systematically and rigorously during the development and implementation phases. With the scarce resources discussed earlier, the federal government should pursue only those projects that offer the best return.

Thus, process reengineering and a sound business case are vital prerequisites for any successful IT project. Unfortunately, as the Subcommittee is aware, the federal government has

launched IT projects without undertaking such analyses. The language of ITMRA seeks to correct these deficiencies. The leadership and culture of each agency must, however, also reflect a commitment to these two principles.

Under ITMRA, the responsibility for overseeing process reengineering and the development of a sound business case will rest largely with the chief information officer of each agency. Accordingly, it may be useful to ask: what are the key success factors in establishing the role of the CIO?

Our experience indicates that today's private sector CIOs have five success factors in common. They:

- adopt the rule of chief promoter of a sensible, shared information technology vision for the contribution of IT to the business;
- demonstrate a strong track record and gain the associated credibility from delivering against promises and business priorities;
- build a pragmatic, fact-based understanding of the important business and IT issues and opportunities both across and within each of the business units or divisions;
- manage with a consistent orientation to corporate-wide priorities, cultures, benefits and value; and
- develop relationships, skills and abilities to guide senior management's understanding and effective sponsorship of IT initiatives.

Above all, the CIO must focus on outcomes and the cost of delivery. In the private sector, CIOs have developed standard approaches to solving business problems using common building blocks. By solving technical and business problems once and then reusing the solution over and over, the delivery and maintenance savings are dramatic. Symptoms of organizations that have failed to embrace this approach are: multiple, unique solutions to common problems; excessive delivery costs; failed projects; and poorly delivered and unmet business cases. This is much akin to developing and building 100 unique cars, each with a separate design, separate engine and separate maintenance requirements. It would be much better, of course, if the product line were based largely on the same design, so that, among other things, maintenance experts could move freely from product to product, building on the common knowledge gained.

Have all of the principles related to the development of a sound business case been applied successfully in the private sector? Certainly.

Caterpillar exemplifies an organization with a well-thought out and executed strategic business plan. Their plan transformed the company into a worldclass operation from one that had once operated in the "red." In the mid-1980s, Caterpillar suffered from intense overseas competition, soaring business costs and low productivity. After posting large annual losses, Caterpillar management decided to develop a strategic plan to turn itself around -- and ultimately become the best manufacturer and supplier of heavy equipment in the world. Partnering with Andersen Consulting, Caterpillar developed a five-year strategic plan to enhance productivity, reduce labor costs and capture a bigger market share. By automating key functions such as

warehousing and entirely revamping its relationships with dealers, customers and suppliers, Caterpillar was able to produce the following results in a few short years:

- 20% increase in sales;
- 30% decrease in inventory;
- 60% increase in productivity; and
- world class service in every area: Caterpillar can get a part to a customer anywhere in the world within 48 hours -- a key competitive advantage.

The company is not resting on its laurels. It now has in place a program to continually evaluate its processes to ensure that it maintains worldclass performance and maximizes its competitive advantage.

Is it realistic to expect these principles to apply to, and these results to occur in, the public sector? Yes it is. Governments have applied business process reengineering and the business case approach to deliver services better, faster and at the best price.

The New Zealand Inland Revenue Department was faced with declining voluntary tax compliance, increasing federal debt and increasing costs in managing their tax system. Some 5,500 employees in 27 district offices were collecting $27 billion NZ dollars annually in taxes. Agency executives determined that improving voluntary compliance was critical to achieving improved results. They set as their goal creating a world-class, citizen-friendly tax agency. By combining 139 related projects designed to modernize the agency, they created a vision centered around "citizen service" called Future Inland Revenue Systems and Technology. The results of their effort:

- the cost of collecting revenue decreased 22%, from $1.30 to $1.02 per $100;
- 22 percent fewer employees were able to collect more revenue;
- the interest on the debt declined $25 million annually due to improved collections; and
- the outstanding collectible debt decreased 48 percent between 1992 and 1994.

B. Procurement Practices Must Support Business Objectives

1. Expeditious Procurements

Procurement laws and practices must support business objectives. For too long, federal procurement laws have impeded, not enhanced, successful IT purchases. The procurement process has been lengthy and unwieldy. Its focus on maximum competition does level the playing field -- yet that field is reduced to the lowest common denominator.

As a result, the federal government has been unable, historically, to take advantage of the rapid pace of change. Indeed, problems with the government procurement process have been most evident with respect to information technology investments, where technological changes far outpace the government's procurement ability. As a result, by the time the procurement process has been completed, the hardware to be procured, for example, is far from state-of-the-art and sometimes is even obsolete. In other cases, the lowest cost has been negotiated on

items that, given the delays, will never be purchased or will be purchased in only modest quantities.

We applaud major changes embodied in ITMRA aimed at unshackling the federal government from some of these cumbersome rules. Congress must remain vigilant, however, and ensure that the spirit of the law is fully embraced by the agencies. A critical success factor in the implementation of ITMRA is increasing the use of expedited procurements.

2. Greater Focus on Value and Solutions

Expedited procurements are, however, only one step. Standing alone, speeding up the process will not make ITMRA a success. In order to realize real value, the entire procurement process must be refocused **in practice**. The emphasis -- in both the letter of the law and in the spirit of its implementation -- must be shifted away from a process that is focused on selecting the firm with the lowest cost per hour, without regard to the number of hours required, the quality of the products developed and a firm commitment to successfully complete the project. Instead, the focus must be **on the value delivered and on a commitment to complete the project successfully -- to help the agency achieve their desired result**.

The government's historical practice of focusing on time and materials places all the risk on the buyer -- the government itself. The government has been operating, in effect, as a homeowner who hires a contractor to build a home based on the number of hours worked by the architect and construction workers, and who, when the home is unlivable when built, still must pay because the contractor delivered skilled crafts people at the rate promised.

Contrast this method of operation with the private sector. When a project "fails" in the private sector, the consulting firm will, in many cases, lose that company as a client for years. In addition, as key management people move to new companies, they take their negative experience with that consultant to their new employers. In the public sector, all too often, firms that have been unsuccessful are quickly hired for new assignments with the same agency because of their ability to understand and win the procurement process.

In order to be successful, the government must be able to focus on the value delivered -- not just on cost.

3. Greater Linkage Between Accountability and Responsibility for All Contracting Parties

ITMRA will certainly stimulate changes in these outmoded, inefficient practices. But laws themselves cannot force greater emphasis on, and linkage between, accountability and responsibility. The culture of procurement practices must change as well. The government buyer, the purchasing professionals and the vendor must all be far more willing than in the past to link accountability and responsibility.

As for the buyer, the government must fundamentally accept responsibility for managing complex projects to a successful completion. This means that the needs of the agency must be developed completely and the outcomes desired must be fully defined in a number of areas that -- together -- ensure a successful project. Focusing on the desired outcomes is critical Using my home-building example, the buyer should specify its desire for a new three-bedroom

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split-level home of 2,500 square feet, rather than a precise floor plan that all interested parties know will change substantially during the construction process.

As for the purchasing team, the agency CIO and his or her deputies must focus on selecting an organization that has a track record with extensive experience. The CIO must ask:

- Which vendor has a **proven ability** to get the job done?
- Which vendor can provide the **best value**, not just the lowest cost?
- Which vendor can guarantee a **reasonable timeframe** that hampers neither the government nor the vendor?

As for the vendors, government contractors must make accountability their touchstone. The vendor selected must be willing to be held accountable to deliver a comprehensive solution — not simply to deliver a specified number of hours or best efforts. **The focus must be on solution-based outcomes**. In the private sector, there is a much greater focus on selecting a vendor that will deliver a comprehensive solution and then holding them accountable. In this environment, the notion of a time and materials contract is the exception, not the rule.

4. Innovative "Win-Win" Solutions

Innovative procurements are now underway that move toward "win-win" solutions. They must be used more frequently. The procurement process should solicit solutions from vendors, encouraging them to put forward their best thinking -- innovative, creative approaches to meet business needs, not just applying technical specifications designed by the government. The government should emphasize partnering with the private sector to provide solution-based outcomes, not mandating massive technical specifications and processes that may or may not fulfill its business objectives. By creating an environment that fosters mutual trust, cooperative creativity and innovation, better solutions can be devised. In such an environment, cost and quality can be well-measured and controlled.

ITMRA's implementation will also succeed with greater use of contract award procedures that prequalify companies based on their past performance, specialized experience and technical competence, the capacity to accomplish the work in a required time frame and the ability to get the job done. We are beginning to see a few procurements being made on this basis. ITMRA must be implemented so that this kind of procurement becomes the standard, not the exception.

We wholeheartedly endorse the pilot programs for alternative approaches to agency acquisitions -- share-in-savings and solutions-based contracting. Andersen Consulting currently has a number of contracts with both private and public partners to deliver both. We are particularly excited about a share-in-savings project that we are now implementing in the Contributions Agency of the United Kingdom's Department of Social Security to gather and store information about contributions and benefit entitlements. Andersen Consulting was selected to perform one of the largest systems development and change management undertakings ever seen in the United Kingdom. It is the first major information technology application of the UK Government's Private Finance Initiative, where the private sector assumes the risk by funding the project in return for a usage-based revenue stream. The system is being designed to improve customer service and operational efficiency.

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5. Reforming the Organizational Conflict of Interest Provisions

Finally, we respectfully suggest that Congress revisit one issue, not included in the final legislation, that would, in our view, also facilitate ITMRA's goals. The original ITMRA legislation included a provision modifying certain of the Organizational Conflict of Interest Provisions (FAR 9.5) to allow firms that perform early design and reengineering work on a project to bid on the implementation phase. It was not included in ITMRA as enacted. For two reasons, we believe that this modification is a critical component of successful, long-term information technology reform.

First, many of the best firms will not participate in the critical design and reengineering work because they cannot then participate in the more significant implementation phase. Second, the government forfeits the in-depth knowledge of its needs and processes that a firm acquires during the design phase. This, ironically, produces the worst of both worlds: the government loses the best state-of-the-art capabilities for its design solution, while having to pay to orient a new set of experts to an unfamiliar design during implementation. This needlessly drives up the costs and extends the time frames, while producing no better solution.

The private sector does not presume the organizational conflict of interest that the federal government does. Quite to the contrary -- private entities want the same firm to conduct the design, reengineering and implementation work. The federal government should have the same options.

C. Encourage Information Technology Innovations Throughout Government

Some private sector information technology "best practices" are being adopted by the federal government today. Unfortunately, success stories are relatively rare and isolated, rather than common within and across agencies. If fully implemented, ITMRA can and should be the catalyst for bold, innovate and entrepreneurial thinking. There is no reason that the federal government cannot embrace in its delivery of services the same technologies that the private sector now offers its customers in ordinary business transactions. Particularly exciting "transformational possibilities" that ITMRA offers include:

- privatization and outsourcing;
- enterprise solutions;
- standardization; and
- entrepreneurial procurement.

1. Privatization and Outsourcing

Government is beginning to privatize and outsource discrete, non-essential functions such as revenue collections and property management. The private sector is outsourcing even more rapidly for good practical reasons: to control costs, manage risks, achieve financial advantages and refocus management energies on core competencies. Rather than necessarily considering outsourcing a "downsizing" mandate, the federal government should view it as a tool to help improve service delivery.

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One private sector outsourcing case illustrates its potential. Northwest Airlines wanted to redesign its passenger revenue accounting (PRA) process to calculate revenue from every ticket sold. Andersen Consulting was hired to redesign the PRA to manage huge volumes of information and accurately flag tickets for audits. Numerous technologies were incorporated including image processing, workflow management, knowledge-based technology and client/server architecture. Northwest signed a 10-year contract with us to independently manage their technical operations. The result:

- The system effectively processes more than 300,000 documents daily.
- Auditors' workload decreased significantly. Only 5-6 percent of tickets require a manual exception audit; all others are handled automatically.
- Operating costs were reduced by up to 40 percent.
- Northwest's revenues increased 1-2 percent annually due to efficiencies in air fare audits.
- The PRA solution has been copyrighted and successfully licensed at other airlines.

We have taken this particular concept, developed a separate business line and now market it to numerous other North American airlines -- passing on the savings, in turn, that are achieved by large economies of scale. Numerous opportunities for outsourcing exist in the Federal Government, from running data centers, to collecting revenue and managing logistics --- areas where tremendous savings can be achieved.

Privatizing, too, is a sweeping worldwide trend with great potential. Today, more than 100 countries are engaged in privatization. Socialist governments in Spain and Greece, labor governments in Australia and New Zealand, ex-communist countries and Asian governments are all privatizing state-owned industries in such areas as telecommunications, electric power, railroad, airports, postal services and water supply. States are privatizing child support enforcement, park management and sewage treatment facilities.

The debate now is beyond **whether** to privatize and is instead focused on how **to best get the job done**. Governments' increasingly limited resources must be marshaled for core, inherently government functions. ITMRA mandates that CIOs and agency heads assess whether functions are inherently governmental or could be better performed by the private sector. When appropriate, agencies should outsource and privatize. Such measures should help revitalize our national infrastructure and provide important new ways of providing government services.

2. Enterprise Solutions

The federal government is organized on the old industrial model: each agency is its own "corporation." Even within agencies, departments and bureaus operate almost autonomously, duplicating many administrative services, including payroll, human resource administration and finance.

Consider again the differences between the private and public sectors. How many different payroll and personnel systems does the federal government operate to solve the same basic problems? We don't know, but we understand the answer is in the hundreds. Contrast that

with the complex mergers and consolidations that are taking place in the private sector. In those situations, one of the first priorities is to eliminate these duplicative expenditures. In the private sector, businesses that have achieved "breakthrough" improvements in operations and productivity have knocked down artificial "corporate barriers" to eliminate duplication and waste. Their priority has been to rethink how all parts of the entire organization can become customer-oriented.

Both within and across agencies, single solutions can eliminate repetitive activities. These "enterprise solutions" offer the potential to save 30, 40 or even 50 percent in administrative costs -- savings that can be used for programmatic enhancement or deficit reduction. Recent work we have performed in human resources at the Department of Treasury suggests that this level of savings is achievable. We estimate that, through **consolidation alone** across Treasury's bureaus, significant savings can be recognized. Even more dramatic savings could be achieved if there was consolidation across the entire federal government to operate only a few -- no more than five -- human resource systems. Similarly, savings would derive if taxpayers were to file electronically and simultaneously federal and state tax returns using only one form.

We are optimistic and hopeful that new inter-government structures spurred by ITMRA will identify numerous "enterprise" solutions. The Administration's draft Executive Order, dated March 22, 1996, would establish a CIO Council, comprised of all CIOs government-wide, aimed at fostering "cross-agency cooperation and inter-governmental approaches to using IT to support common operational areas and common infrastructure services, including telecommunications services." This council would receive recommendations from other inter-agency boards. Regardless of whether the structures outlined in the draft Executive Order are perfect, they are a step toward developing a more modern, streamlined and efficient federal government.

3. Standardization

Standardization is critical if information technology is to maximize value within an organization. Government agencies must be able to communicate and share data among one another to provide true savings and efficiencies. Comprehensive solutions in the private sector are developed based on common technical architectures, corporate data models and reusable solutions. ITMRA provides the impetus to tackle this task on a government-wide basis.

4. Entrepreneurial Procurement

Innovative ways now exist to incorporate competition into government contracts. For example, as part of the procurement for a government-wide telecommunications system, FTS 2000, the government awarded a long-term contract to two telecommunications companies. The two organizations must, however, recompete their established base periodically based on price to retain or expand their "market share." Thus, rather than awarding a long-term monopoly to one vendor at a set price, the government has creatively injected competitive pricing into the system, without at the same time requiring a lengthy and costly rebidding.

We are seeing this concept of multi-vendor, multi-year awards in other areas, such as the Department of Defense and the IRS, where vendors are required to provide "excellent" performance to get an increasing share of contract funding. ITMRA should foster widespread

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use of these multi-vendor, multi-year contracts -- yet another way for the federal government to shop "best value" more easily.

IV. <u>CONCLUSION</u>

Historically, the federal government has procured information technology largely on the basis of process, not results or outcomes. The surest sign of ITMRA's ultimate success will be when results and outcomes matter most.

Testimony of

Mr. Milton E. Cooper
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before the

Subcommittee on Oversight of Government Management
and the District of Columbia

Committee on Governmental Affairs

United States Senate

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Mr. Chairman, members of the Committee, good morning.

I am Milt Cooper, president of Computer Sciences Corporation's Systems Group, the CSC business unit dedicated to serving the Federal Government. I am pleased to be here, and I appreciate this opportunity to share our views on the recently enacted Information Technology Management Reform Act (ITMRA). As one of the largest independent IT companies in the world, with annual revenues approaching $5 billion, CSC applies leading-edge technology to address the most complex challenges of Government and worldwide industry. I believe CSC's experience, in both the commercial and Government arenas, can provide valuable insight on our topic of today: implementing the IT Management Reform legislation.

Like most of the IT industry colleagues with whom I speak, CSC is very excited about the possibilities of this legislation. We've been involved from its start, working closely with trade associations such as the Information Technology Association of America (ITAA) and the Electronic Industries Association (EIA) as this legislation was being developed. Last year I had the opportunity to testify on ITAA's behalf in support of the Federal Acquisition Reform Act , the companion bill to ITMRA. I've also worked actively with the Office of Management and Budget (OMB), the Office of Federal Procurement Policy (OFPP) and the administration, all of whom have exhibited enormous energy in bringing us to where we are today in IT acquisition reform. I also

want to recognize the members of this Committee and the Committee staff who have helped us reach this new, very positive level by their work on this act.

Let me begin by saying that the Cohen Act is ground-breaking legislation, the key elements of which promise greater opportunity for success in implementing truly workable, innovative information systems across the Federal Government. To date, our focus has been on the reform of the process of IT acquisition, and that focus was necessary. Now we can build on that work, applying the improved processes to help the Government maximize the results of its IT capabilities and investments. By implementing this act properly, we can create an environment in which agencies are empowered to apply IT for the best interests of our nation, while striking the optimal balance between autonomy and oversight.

This legislation has many excellent ideas that will help our agencies be more productive: It creates the position of the agency or departmental Chief Information Officer, it encourages performance-based contracting, it establishes results-oriented IT plans by requiring assessment of IT system investments and how well those investments support agency missions and programs, and it establishes financial accountability for IT programs with each agency head. These are all ideas with successful precedent in the commercial sector, and show similar promise for the Federal Government. In the time I have allotted, I'd like to focus on two provisions of

this act that I believe have the most potential for dramatically improving the acquisition and use of the Federal Government's IT resources. First, performance-based contracting.

The performance-based contracting provisions of this legislation will facilitate new levels of partnership between Government and industry in which each are equally and more measurably responsible for delivering results. In these new levels of partnership, both vendor and client have greater autonomy, both make significant investments, and both must ensure that expected results are delivered. It's interesting to note that the studies CSC has performed in the private sector prove that as these more equal partnerships take root and grow, both parties realize much greater benefits than with traditional "you order-we supply" type agreements. Both parties also reap much greater return on the investments they make in the partnership.

In the commercial world, this type of success is best exemplified by the enormous growth of Outsourcing relationships. Through Outsourcing, a company focuses on its core mission by entrusting non-core functions to an expert provider. The outside provider performs his obligations in accordance with pre-established service level agreements, and is compensated according to how well he meets the results established in those agreements. The better the results, the greater the compensation. Likewise, if results are not attained, the contractor is not compensated. Under this system, the

vendor is motivated to perform, and the client is more able to concentrate on his mission — a win-win situation for both parties.

What we have is a new environment, created by the government's National Performance Review, its attention to acquisition reform, and this Committee's interest and energy. This environment allows the government to look at new ways of doing business, and has caused some agencies and departments (such as NASA, the Department of Energy, the Department of Defense, and the Health Care Financing Administration, among others) to consider performance-based contracting or Outsourcing as a means to improve the efficiency of their IT investments and operations.

As I see it, this legislation encourages everything that is integral to Outsourcing: a strategic orientation, focus on results rather than processes, shared investments, greater trust between partners, and far greater potential rewards for both partners. The result is a win-win-win partnership: the Government wins, the contractor wins, and our citizens win because our agencies can serve their needs more effectively.

Now let me comment briefly on another vital element of this legislation: establishment of agency Chief Information Officer positions. Here again, there is commercial precedent for this practice. This doesn't mean that it has always worked. Frankly, we in

industry have seen some cases where it hasn't produced the results we'd hoped for. So I'd like to offer some thoughts that may help the Government fulfill the promise of the Cohen Act's CIO provision.

I'll start with what I deem most important: The CIO must have the full support and backing of the most senior leadership of the agency or department. The spirit of ITMRA moves away from the idea of information resources management as an administrative function and recognizes that it is, instead, a strategic function integral to our nation's operations. To truly implement the spirit of this legislation, the CIO must be a part of the strategic leadership process of the agency and therefore must have the ear of the agency head, a seat at the executive table, and the authority envisioned in the legislation. This requires that the agency chief personally participate in selecting the CIO and then clearly and continually demonstrate support and confidence in his or her choice. CSC's commercial experience has proven that when the CIO does not have this highest-level support, at best, expected results are not achieved, and at worst, the undertaking fails.

Now let me talk about some of the qualifications that I believe are important in a CIO. The CIO must be a visionary, someone who can make sure that the agency's IT strategy is properly aligned to meet the agency's mission. Although the CIO does not need to be a technologist, he or she should have a solid appreciation of the application of IT.

Preferably, this person will have a relatively broad knowledge of commercial best practices. Also, the CIO should be a highly focused manger who can ask hard questions and make the necessary tough decisions. What the agency should look for in a CIO is a marriage of commercial, Government and technology management experience.

CSC and its industry colleagues in ITAA are currently involved in the CIO work group to define the roles, missions and requirements of the agency CIO. If the Government wishes, we also stand ready to identify CIO candidates for the Government's consideration and make them available for interviews.

The power of this legislation lies in its ability to focus industry and Government on bringing the power of IT to bear on our agencies' goals. Clearly, implementation of this legislation is not without risk. But the responsibility and risks are not the government's to bear alone. I view the responsibility of success as a shared responsibility. Industry has an absolute, vested interest in making this legislation work. And as we seek to do our part, we will depend on the continued support and interest of the Congress, which is vital to ensuring that implementation proceeds properly.
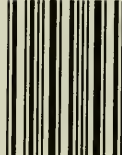
Again, I am very excited about our future under ITMRA and look forward to continuing to work with Government to achieve our nation's goals through expedient use of information technology. I'd also like to thank the Committee and staff for its leadership and for giving me this opportunity to share my views. I will be happy to respond to any questions.

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